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ABSTRACT

This report details a study combining qualitative and quantitative research tools to compare the functioning of schools in China, Guinea, India, and Mexico and in different development contexts within each country. The focus of the analysis was on the critical factors determining the quality of the interactive process taking place in schools, how these factors relate to student performance, and how this performance can be improved. The report is organized in three parts. Part 1 contains a general description of the study, its methodological approach, the research objectives, and the contrasting localities selected in each country. Part 2 compares the principal findings of the case studies, with chapters dealing with problems relating to the interactions between the school, parents, and pupils; the material conditions of teaching; teachers' problems; how schools operate; and the teaching-learning process. This part also analyzes the communication and numeracy skills of pupils in the fourth grade and sixth or final grade of primary schooling. Part 3 summarizes the major findings and examines implications for planning and management. Appended are results of regression analyses examining variations in achievement scores between learners in Mexico, India, and Guinea. Contains 79 references. (KB)

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by
Gabriel Carron
Ta Ngoc Châu

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Preface

The quality of education has been a major concern of the *International Institute for Educational Planning* (IIEP) ever since its foundation in 1963. Within the framework of the Fifth Medium-Term Plan 1990-1995, this concern received renewed attention with the launching of a major programme on the quality of basic education services. This programme had two complementary goals which were to contribute to (i) the drawing up of national strategies to improve the quality of basic education and (ii) the development of an appropriate information system which would allow an effective monitoring of the implementation of these strategies. In order to achieve these goals, a wide range of research and training activities were undertaken, using a variety of complementary approaches and entrance points.

The research work on which the present synthesis is based is one component of this overall endeavour. Its central focus is on the functioning of primary schools: How do primary schools operate in different development contexts? What are the crucial factors that intervene and how do they relate to the achievement of the learners?

The rationale behind the research project is the growing consciousness that overall, system wide, measures concentrating on better infrastructure, more textbooks, better trained teachers, etc. will only have a limited impact unless complementary action is taken to improve the functioning of the schools. As schools are the delivery points at which all the components of the system come together for interaction, it is this interaction which finally determines the quality of the service being delivered. Understanding what is happening in the schools and in the classrooms is therefore a precondition for elaborating more effective quality improvement strategies.

In order to address this question, an original research approach has been used with the methodological assumption that social phenomena, such as the functioning of educational institutions, can best be understood when they are analyzed within their local setting. For this reason, in each of the four participating countries (China, India, Guinea and Mexico) a purposeful sample of schools which operate in contrasting environments was selected. Given the limited size of the sample, both qualitative and quantitative techniques of information gathering could be used, which allowed for a more in-depth analysis of the complex relationships between different variables affecting education quality and for relating them to the specific socio-economic and cultural environment.

This report therefore has a twofold interest. From a substantive point of view, it provides the reader with original insights into the ways in which schools operate in different development contexts as well as their implications for planning and management. But some important methodological conclusions may also be drawn from this research, including the design of a conceptual framework for analyzing the functioning of schools indicating the critical factors to be taken into consideration when undertaking such an analysis.

The publication should be seen as an intermediate stage in the IIEP's long-term concern to develop more effective strategies for improving the quality of education. Already, on the basis of the research completed as part of this project, special course materials have been designed which have been used to organize intensive training courses on monitoring the quality of primary education in several regions of the world. Furthermore, with regard to one of the major conclusions of this report which relates to the crucial role of teacher support and supervision mechanisms in quality improvement, a new project has been initiated as part of the present Medium-Term Plan 1996-2001.

Finally, I would like to take this opportunity to express my thanks to the UNDP for the financial support given to this project and to the UNICEF Office in Beijing for its contribution to the case study in China. We would also like to express our gratitude to the education authorities of China, Guinea, India and Mexico for the interest they have taken in the project and for the material, human and financial support which they have provided for implementing the national case studies in their respective countries.

Jacques Hallak
Assistant Director-General, UNESCO
Director, IIEP

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Thanks are also due to all those who made comments on the first draft of this comparative analysis, in particular the Director and colleagues of the *International Institute for Educational Planning* (IIEP), and Sheldon Shaeffer and Roy Carr-Hill.

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Contents

Preface v

Acknowledgements vii

Introduction xi

Part I. Presentation of the research project 1

- I. Methodological approach and objectives of the research project 5
- II. The implementation of the project 7
- III. Characteristics of the chosen locations 12

Part II. Analysis of the functioning of schools 41

Chapter I. The pupils, the parents and the school 43
- I. The living conditions of pupils 44
- II. Parents' opinions about the school and its teachers 54
- III. Educational and occupational aspirations of parents for their children 60
- IV. Reasons for absenteeism, repetition and drop-out 69
- V. Conclusions 79

Chapter II. The material conditions of education 85
- I. Variation in school size 86
- II. Variation in the quality of school infrastructure 90
- III. Variation in the educational means made available to teachers 97
- IV. Variations in the conditions of comfort offered to pupils for studying 101
- V. Typology of the schools 109
- VI. Conclusions 114

Chapter III. The teachers 116
- I. Imbalances in the distribution of teachers 117
- II. Living conditions and distance from the school 124
- III. Income 127
- IV. Work satisfaction 133
- V. Conclusions 147

Chapter IV. Teachers' interactions 151
- I. Interaction with the headteacher and colleagues 151
- II. External pedagogical support for teachers 157
- III. Relations with parents 171
- IV. Suggestions by teachers for improving their work in the classroom 176
- V. Conclusions 178

Chapter V. The teaching process 182
- I. The teacher's presence in the classroom 183
- II. The teacher's level of competence 185
- III. The use of work plans 188
- IV. Teaching style 190
- V. Homework 197
- VI. Knowledge evaluation 201
- VII. Conclusions 201

Chapter VI. The achievements of pupils 204
- I. The design of evaluation tests 204
- II. Variation by location 208
- III. Variation by school 225
- IV. Conclusions 239

Part III. Major findings and implications for planning and management 243
- I. A conceptual framework for analyzing the functioning of schools 245
- II. Major findings regarding the functioning of schools 249
- III. The difference between a high-performing and a low-performing school 262
- IV. Implications for policy making, planning and management 265

Appendix 279

Bibliography 301

Introduction

It is recognized to an increasing extent that there are no uniform, standard solutions to the problems arising from the expansion and improvement of basic education. The limits of a simple linear expansion of the 'typical' school of yesterday are obvious. The capacity of such a school to absorb and retain children from underprivileged areas is inadequate, as testified by the very low attendance and retention rates where such pupils are concerned.

It is as though there are two distinct stages in the universal provision of basic education. The first stage consists of an extension of the primary school network in areas where education meets a directly-felt need of the population, that is to say mainly in urban centres and economically developed regions. Here the challenge for the education authorities is relatively easy; their principal concern is to meet a guaranteed demand as soon as possible. Most countries have advanced beyond this stage. They are now in the second one, where, once the bulk of the demand has been satisfied, the task is to organize the provision of basic education in areas which, for many reasons (historical, economic and socio-cultural), have remained on the sidelines of educational development. The problem here is not merely to make schools available, but to supply an education corresponding to the needs and living conditions of underprivileged groups, while at the same time stimulating their educational demand. This task is made particularly complicated by the fact that, in the meantime, teaching conditions have deteriorated and financial resources have been markedly reduced.

Planning operations have therefore become more complex, because it is necessary at one and the same time to improve the quality of the education provided, pay special attention to demand problems, and diversify educational facilities in the light of the specific needs of different areas and users.

This new view of planning is not without direct implications on the way of studying educational settings, preparing decisions, and monitoring the application of the latter. It no longer suffices merely to analyze national averages, that is to say seek what is common to all the components of a given society. On the contrary, the differences have to be revealed and the specific ways in which schools operate in their varied local contexts have to be understood. This means adopting a different form of diagnosis and establishing diversified proposals for action.

It was to meet this requirement that the IIEP, in 1989, in conjunction with the United Nations Development Programme (UNDP) *Division for Global and Interregional Programmes* (DGIP), launched the Interregional Research Project on the *Improvement of Basic Education Services*. The central component of this project was the design and implementation of a limited number of national case-studies on teaching/learning conditions in primary schools, the interaction between supply and demand at the local level, and the results achieved by schools in terms of pupils' acquisition of basic skills.

The countries were selected pragmatically, having regard to geographical diversity and taking account of official interest in the development of basic education. Four studies were conducted: one in Africa (Guinea), two in Asia (the State of Madhya Pradesh in India, and the Province of Zhejiang in China), and one in Latin America (the State of Puebla in Mexico).

In each country, national research teams were constituted; they were responsible for adapting the general research design to the specific national context, selecting five or six contrasting areas for implementation of the project, developing research instruments, gathering and analyzing data, and preparing the final research report.

During the implementation of the project, workshops were organized for the national teams at various critical stages of the investigation. When the initial provisional reports had been completed, national seminars were held in the participant countries at which researchers and top-level decision-makers discussed the decision-making and planning implications of the results of the investigation.

The present report contains a comparative analysis of the four national case studies conducted as part of this project and published separately.[1] It is organized in three parts.

Part I contains a general description of the project: the methodological approach to, and the objectives of, the research; some explanations of how the project was implemented in the different countries concerned; and a consolidated description of the contrasting localities selected in each country for the purpose of investigating the real conditions under which schools operate in their related environment.

Part II compares the principal research results of the case studies with a view to providing more general insights into the different ways in which schools function in varying local settings. The first chapter deals with problems relating to the interactions between the school, parents and pupils: the living conditions of pupils, parents' opinions of the school and of teachers, parents' educational and occupational aspirations for their children; and the reasons for absenteeism, grade repetitions and drop-outs. The following four chapters analyze the characteristics of the supply of educational facilities, notably, as shown in *Chapter II*, the material conditions of teaching; in *Chapter III* , teachers' problems, including their living conditions and job satisfaction; in *Chapter IV*, how schools operate, through an analysis of the relations between the principal and the teaching staff, between the teachers and the central administration, and between teachers and the community, and finally, in *Chapter V*, the teaching/learning processes, that is to say, the way teachers prepare and organize their classroom lessons. *Chapter VI* contains an analysis of the communication and numeracy skills acquired by pupils in the fourth grade and the final grade of primary schooling: and an analysis of the differences between areas and schools in this respect.

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[1] Govinda, R. ; Varghese, N. V. 1993. *Quality of primary schooling in India: a case study of Madhya Pradesh, India*. Paris: UNESCO/IIEP.
Martin, J.Y. ; Ta Ngoc Châu. 1993. *La qualité de l'école primaire en Guinée: une étude de cas, Guinée*. Paris: UNESCO/IIPE.
Sylvia Schmelkes *et al*. 1996. *The quality of primary education: a case study of Puebla, Mexico*. Paris: UNESCO/IIEP.
Cheng Kai-ming. 1996. *The quality of primary education: a case study of Zhejiang Province, China*. Paris: UNESCO/IIEP.

Part III of the report sums up the major findings of the research and examines their implications for planning and management.

The report can be read in different ways depending on the position and interest of the reader. The decision-maker who does not have much time may just read *Part III*, which will provide him/her with an executive summary of what can be learned from this research and with a discussion of the lessons which can be derived from it for his/her agenda and approach.

If some more time can be spared, the concluding sections of each of the chapters in *Part II* could be read in addition, to gain a better picture of the key factors which influence the quality of schools.

The planner and school administrator with more technical interest will find it also useful to read the detailed presentation of the research results contained in the different chapters of *Part II*, or make a selection according to his/her needs.

Finally, *Part I* is addressed much more to the researcher who would like to gain a more in-depth knowledge of the methodological aspects of the research project and the process of its implementation.

Part I

Presentation of the research project

Part I

Presentation of the research project

In recent years, the international community has shown, once again, its interest in the accelerated expansion of basic education services. The various regional conferences which UNESCO has organized in Latin America, Africa, Asia and the Arab States have reaffirmed the urgent need to offer 'basic education for all' in the respective regions. The International Literacy Year was celebrated in 1990, and in that same year four major specialized agencies of the United Nations Organization (UNESCO, UNICEF, UNDP and the World Bank) jointly took the initiative of organizing the World Conference on 'Education for All' in Jomtien, Thailand. This renewed interest in basic education goes together with the intention to develop new strategies capable of reversing the deterioration in the quality and scope of primary and adult education in developing countries, and especially in those of the Least Developed Countries (LDCs) which are the most disadvantaged.

Such is the objective that has inspired the Inter-regional research project for the *Improvement of basic education services in developing countries*. By preparing an in-depth diagnosis of the functioning of primary schools in different developing countries, it aims for the improvement of basic education, and for the enhancement of the effectiveness of education services, so as to make them accessible to all categories of population. A purely linear expansion of traditional education programmes has proven inefficient in achieving this objective. The only way is to tackle urgently two major problems: on the one hand, the fragility of the demand for basic education, especially among the most disadvantaged groups of the population, and, on the other hand, the mediocrity of existing programmes, which further reinforces this fragility, and is reflected in high drop-out rates and poor results.

In the disadvantaged zones of low-income countries, the minimal conditions for offering effective instruction are not fulfilled, and many classes are devoid of the basic equipment required for teaching and learning. At the same time, the most critical factor in the education process, namely the teacher, is a source of serious difficulties, in so far as quality is concerned. The teaching profession has suffered greatly from the negative effects of the economic crisis and of adjustment policies, which have had a severe impact on the standard of living of teachers. As shall be seen in the various case studies, this phenomenon has had a negative effect on their morale, their sense of commitment and their motivation. A further negative influence on their work has arisen because of deteriorating working conditions in the classroom, and a weakening of various professional support structures.

The rapid expansion of basic education services also raises the issue of demand among children belonging to the most disadvantaged groups of the population. The intensity of this demand depends on the social and economic environment within which families live. In underprivileged zones, the creation of a school does not automatically guarantee that children will be attending it, so that the expansion of education must make allowances for both the dearth of properly organized schools and the low participation rates of pupils. In many countries, therefore, any strategy to generalize primary education will have to include appropriate measures to stimulate and strengthen the education demand of disadvantaged families, and to make sure that they benefit maximally from the education services offered to them. In order to do this, educational institutions must adapt better to local living conditions and needs, by making the organization of schools more flexible and diversified.

Finally, strategies to develop basic education must, more than in the past, take into consideration actual results, that is, real mastery of basic skills by pupils. In most countries there is no objective method for monitoring progress achieved in meeting the objectives of education. For want of anything better, the number of years spent in school is calculated to have an approximate indicator of mastery. However, the fact that several years have been spent at school does not automatically mean that mastery has been achieved of the expected skills. Any realistic strategy should therefore include an essential component involving the replacement of the classical criterion of number of years of education by a more objective measure. In operational terms, this involves defining the minimal skills corresponding to basic education and constructing instruments to measure the degree of mastery of these skills.

I. Methodological approach and objectives of the research project

This project is founded on the basic hypothesis that understanding the real problems of the functioning of educational institutions requires that they be analyzed within the local context where they occur. For this reason a micro-approach was proposed; it started with a detailed study of the environment within which schools function, in order that the interactions of different factors and the variations in observed results be interpreted with full consideration of the local context.

(i) Methodological phases

From the outset, five or six locations were selected in each of the countries where this research project was undertaken (one in Africa, Guinea; two in Asia, State of Madhya Pradesh, India, and Zhejiang Province, China; and one in Latin America, State of Puebla, Mexico) thus providing a continuous range of specific and differentiated situations, from the privileged urban to the most remote rural zone.

For each of these locations, a global profile was drawn up including the main demographic, economic, socio-cultural and educational variables. This profile, through its analysis of the community, of its social structure, its religious and linguistic characteristics, its types of habitat, the main economic activities, job opportunities, the public health and nutrition situation, and of the development of the education system, was meant to ensure a better understanding of the functioning of schools and the results they achieve.

In each of these locations an in-depth analysis was then carried out of the functioning of all the schools, taking into consideration the prevailing material conditions and the various agents participating in the process: the pupils and their parents, the teachers, headteachers and local officials.

Finally, efforts were made to measure the achievements of pupils, that is, essentially, the degree of their mastery of basic skills in the areas of communication and arithmetic. This made it possible to reveal considerable variations in results, and to identify the main factors influencing these results.

This deliberate choice of zones and of all the schools therein makes no claim to being nationally representative, but it was meant to allow for a detailed analysis of the significant variations in the operation and performance of schools as a function of their environments.

To give an idea of the surveys that were carried out, *Table 1* provides summary information on the sizes of the main samples.

Table 1. Composition of the main samples of the survey

	Mexico *Puebla*	India *Madhya Pradesh*	Guinea	China *Zhejiang*
Number of zones	5	5	6	5
Number of schools	77	59	75	41
Number of teachers	413	111	222	127
Number of pupils				
• Grade IV	1 198	1 060	835	1 180
• End of primary	1 067	1 099	982	1 283
Total	2 265	2 159	1 817	2 463
Number of parents	743	300	231	224

(ii) Objectives of the project

To facilitate the formulation of national strategies aimed at improving the quality of basic education services, and taking into account the actual problems that arise in classrooms, and to contribute to the development of an appropriate monitoring system leading to meaningful evaluation of the implementation of these strategies, this research project sought to provide some answers to the following questions – putting the stress on variations observed in contrasted development contexts:

- What is the interaction between education supply and demand, and what are the essential factors underlying non-attendance of school or early dropping-out, particularly among the most disadvantaged groups?
- What are the material conditions of education and how do they vary from zone to zone, and from school to school?
- What are the characteristics of the teaching staff, their living and working conditions, their attitudes, their motivation and their expectations?
- How does the education process occur, what are the teaching styles and what makes the difference between high- and low-performance schools?

- How well and to what extent do pupils master basic skills, especially in the areas of communication and arithmetic, and what are the key factors influencing acquisition of these skills?

II. The implementation of the project

The very design of the project implied developing a whole series of survey instruments and carrying out intensive field work. This work involved close co-operation with national teams in each of the participating countries.

Given that the methodology is common to all case studies, the survey instruments developed in co-operation with national teams, albeit specific to each country, cover similar categories. In particular, these survey instruments include:

- a questionnaire for the *headteacher* of each school to collect data about changes in enrolment in the course of recent years, the availability and condition of school facilities, equipment available to teachers, textbooks and supplies provided to pupils, the composition and characteristics of the teaching staff, various other services available at the school, extra-curricular activities and information about the role and the responsibilities of the headteacher;
- a questionnaire about the personal characteristics of *pupils*, their family environment, the relative comfort of their home, access to books, radio and television, frequency of homework and how they are assisted when doing homework;
- a guide for interviewing *teachers* about their individual characteristics, level of education and pedagogical training, their attitudes to the development of education and changes or reforms that have been introduced or are planned, their teaching style and their relations with parents and pupils;
- a guide for interviewing pupils' *parents* about their main activities, their living conditions, the schooling of their children, their attitudes to the school and their relations with teachers;
- a guide for interviewing *local officials* about their position with respect to the school and the relative priority they give it.

This set of survey instruments was supplemented by tests for evaluating pupil achievements. In Guinea and in India (Madhya Pradesh), these tests covered the language of instruction (understanding, reading and writing) and arithmetic (knowledge of the numbers, operational techniques and arithmetic problems). In Mexico (Puebla) in addition to these two tests of communication and arithmetic, two others were also developed to test knowledge and attitudes about health and hygiene, on the one hand, and productive work, on the other[1]. In China (Zhejiang), the tests were grouped under two categories: one relating to literacy and numeracy, the other to general knowledge of history, nature, music, housework and moral judgement[2].

The national research teams in the participating countries were not composed in exactly the same manner. Similarly, field work was conducted in slightly different ways. In the following sections are provided details regarding the national teams and the conduct of surveys in each of the countries.

A. The State of Puebla, Mexico

The study of the State of Puebla was undertaken in co-operation with Mexico's *Centro de Estudios Educativos* (CEE) and the *Dirección General de Evaluación y Incorporación y Revalidación* of the *Secretaria de Educación Pública* (SEP). The field work was carried out in three phases.

During the first phase, which took place in January 1991, all the surveys of headteachers, teachers and pupils' parents were conducted, in addition to observation of a limited number of classes. The investigators stayed at each school for an entire week if they were alone, or for three days if they were one of a group of two.

This phase involved a very large team: 20 professionals from the *Unidad de Servicios Coordinados del Estado de Puebla* of the *Secretaria de Educación Pública*, and 100 students of various disciplines at the *Universidad de las Américas*, located at Cholula in the State of Puebla. To ensure uniformity of the teamwork, participants received special training through a one-week workshop organized and directed by the national research team from the *Centro de Estudios Educativos*. This workshop was designed, in particular, to present the research project methodology in detail, to explain the objectives of each survey instrument, to simulate the application of all these instruments, and to initiate participants in class observation by the viewing of a video on different teaching styles. It was also an opportunity to give a detailed explanation of the investigator's manual, which was then distributed to all team members.

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[1] The results of these last two tests, which were specific to the case study on Puebla, have not been analyzed in this comparative report.

[2] As in the case of Puebla, the results of the general knowledge tests have not been included in this report.

During the second phase, in May 1991, that is, at the end of the school year, the evaluation tests were given to pupils in Grades IV and VI. These tests lasted three days, at the rate of one hour per day, and were conducted under the supervision of the investigators who had already been trained.

In each of these two phases, the research team from the *Centro de Estudios Educativos* (CEE) and the central staff of the *Unidad de Servicios Coordinados del Estado de Puebla* of the *Secretaria de Educación Pública* played a supervisory role. They accompanied investigators for one day to their place of survey, to advise them and provide support. In addition, they met with investigators at the end of each week, in order to verify that the survey instruments had been filled in completely and correctly. If not, the investigators were asked to return to the survey zone to collect missing information or to rectify errors.

The third phase was devoted to interviews with individuals well informed on the zone in question, in order to fill in the zone profile. This was done by the *Centro de Estudios Educativos* (CEE) research team itself for all zones, and in co-operation with an anthropologist from the *Universidad Autónoma de Puebla* for the zone of Puebla. The research team decided to postpone this exercise until the end of the study, in order to take advantage of its analysis of data collected by the preceding surveys, and to fine-tune the questions to be put to these individuals about a particular zone. Another part of this phase consisted in an in-depth survey of high- and low-performance schools identified on the basis of the test marks.

B. The State of Madhya Pradesh, India

The study of Madhya Pradesh was undertaken in close co-operation with the *National Institute of Educational Planning and Administration* (NIEPA) in New Delhi. Five junior researchers were recruited to implement the project, each with responsibility for all data collection operations in one of the five locations, under the supervision of two experienced researchers – staff members of NIEPA.

The field work was executed in three phases during the 1990-1991 school year. During the first phase, the two NIEPA researchers visited the five chosen locations to analyze the situation and to confer with local officials and headteachers on the organization of the study and the calendar of operations, and also to collect supplementary data on the spot, with a view to filling in zone profiles that had been drawn up previously on the basis of secondary sources.

For the second phase, five junior researchers joined the NIEPA research team to carry out the survey work. These researchers were also aided by education officials at the State level, and by five school inspectors from the five districts encompassed by the study. During this phase surveys of schools, headteachers, teachers and local officials were carried out.

The third phase, which took place at the end of the school year, was essentially devoted to giving evaluation tests to pupils in Grade IV and Grade V. These tests had been prepared on the basis of the minimum competencies required, as defined by Indian education authorities for each of the grades of primary education. The research team also took advantage of this phase to collect data about the pupils and to carry out school and classroom observations. In addition to the survey instruments that have already been mentioned, the Indian team also developed a guide for school observation, designed to record significant events that occurred at the school during the day of the survey, and another guide for classroom observation. These school and classroom observations later made it possible to compare high- and low-performance schools, as was done in the State of Puebla, Mexico.

C. Guinea

The study of Guinea was undertaken in co-operation with the *Division de la Planification de l'Education* of the *Ministère de l'Education Nationale*. The national team had 20 members, half of them from the central administration and half from the five *Académies* (educational regions) of Conakry, Kankan, Kindia, Nzérékoré and Labé. This participation of officials responsible for educational development at the *Académie* level was particularly valuable, for it enabled interpretation of data analysis results against the background of actual experience and problems encountered specific to each of the *Académies*.

To reinforce the experience of this national team in research methodology, a series of workshops was successfully organized to discuss the research project objectives and the best approach for its implementation, to design, develop and pre-test the survey instruments and the pupil achievement evaluation tests, to prepare the field work, to interpret the results of data analysis, and, finally, to draw the main conclusions of the study and to learn the lessons for basic education development resulting from it.

The field work was carried out during the 1989-1990 school year. In order to measure pupil progress, the evaluation tests were given twice, at the beginning and end of the school year. Therefore it was necessary to visit twice each of the 75 schools given in the sample. The first visit occurred two months after the beginning of the school year. It served not only to give evaluation tests, but also to collect data on the location for the purpose of the zone profile, to conduct interviews with teachers and to fill in the questionnaire on the school.

The data collected during this first visit were analyzed and discussed at a research workshop, with the participation of the entire national team. This workshop resulted in an evaluation of the first visit, in the form of a summary interpretation of the results, especially in so far as variations in pupil performance between different locations and schools were concerned. It was also an opportunity to set out various concrete recommendations for the second study visit.

This second visit took place one month before the end of the school year. In addition to the second series of evaluation tests, it was also used to conduct interviews with pupils' parents and local officials.

D. The Province of Zhejiang, China

In China the study was carried out in the Province of Zhejiang and was undertaken by a principal researcher from the education department of the University of Hong Kong, in collaboration with the Zhejiang Institute for Educational Research (ZIER), which is the research arm of the Zhejiang Education Commission. Many local researchers were involved in the implementation of the field work.

The research project actually began in March 1989. Five sites were selected from the Province of Zhejiang, the number of schools in each site ranging from 6 to 10. The sites were chosen from counties of differing *per capita* income and differing degrees of industrialization. Community needs were studied during two focus group discussions with an urban neighbourhood and a rural community in an attempt to understand what the community perceived as the aims of basic education. Results helped the researcher to understand the local context in which basic education is provided, as well as to shape the research instruments used in other components of the project.

The field work was carried out in three phases, beginning with a pilot phase in April 1990. At the first phase draft instruments were developed by the local researchers and were subsequently revised. These revised drafts were tested and further revised during a field study in one of the designated counties (Yuyao). The questionnaires were pre-tested by means of a pilot field study in Longquan (one of the designated sites) and were further modified. This also served as a training opportunity in which researchers from other sites participated.

During the course of the second phase, the field work was carried out between April and June 1990. More specifically, local researchers did surveys on schools, headteachers, class teachers, teachers, local officials, parents and students using various qualitative research methods including questionnaires, semi-structured and structured interviews, and classroom observation.

The students were tested at the end of the school year, that is, in June 1990. This third stage involved taking two examination papers each lasting approximately one hour. The first one tested general knowledge whilst the second concentrated on language and arithmetic. The tests were carried out on the same day in all the sites and were supervised by a representative from the relevant county authority. Test scripts were marked by local teachers following a standard marking scheme.

Finally, completed questionnaires, interview transcriptions and test results were collated by the Zhejiang Institute for Educational Research (ZIER).

III. Characteristics of the chosen locations

To provide a more concrete idea of the range of situations on the rural-to-urban continuum, and of variations in the disparities observed in the four countries, some information will be given first about the general situation of the State in which the research was done, and then regarding the selection method and the detailed characteristics of selected locations or zones.

A. The State of Puebla, Mexico

(i) Profile of the State

The State of Puebla is in the centre of Mexico, 120 kilometres to the east of Mexico City, the country's capital. With a surface area of 34,000 km^2 and a population census, 1990, of 4,118,000, it has a population density of 121 per km^2. It encompasses a total of 217 communities, known as *Municipios*, as well as two large indigenous territories: the first, one of the country's most extensive, is inhabited by the Náhuatl and lies in the mountains to the north, and the second, inhabited by the Totonaca, is on the boundary with the State of Veracruz. The population of indigenous origin represents 11.7 per cent of the State's total, against an average of 6.2 per cent for the country as a whole.

The proportion of the labour force in agriculture amounts to 36.9 per cent, which is much higher than the national average (22.6 per cent). The diversity of the climate allows for cultivation of both tropical and temperate crops, the main ones being corn, beans, potatoes, wheat, barley, peanuts, sugar cane, coffee, rice and sorghum. Fruit is another source of wealth in the region: apples, plums, melons, guavas, avocados and watermelons.

As for industry, the textile sector goes back to the colonial period. Industrial development has intensified since 1960, particularly in the metallurgical, petrochemical and automobile sectors. For example, Puebla is the site of a Volkswagen plant. Finally, crafts are well developed, especially ceramics and onyx working.

The State of Puebla was chosen for this study for various reasons. The main one is that, from the point of view of development of basic education, it is positioned very close to the national average in comparison with the other states of the federation, as shown by the basic indicators in *Table 2*.

Table 2. Puebla: Main education development indicators

Indicators	Mexico *Puebla*	National average	Ranking among the 32 states
Average duration of studies by population over 15 years old	5.5	6.4	20
Illiteracy rate of population over 15 years old	12.8	7.5	29
Enrolment rate of 5-year old children in pre-primary	66.2	72.6	27
Repetition rate in primary education	12.3	10.3	23
Drop-out rate in primary education	5.1	5.3	18
Proportion of a cohort completing primary education	53.1	57.1	24
Transition rate to secondary education	76.8	75.9	22

The second reason is that the State of Puebla has very significant disparities: the capital has a concentration of industries and services, with rich residential zones, but also with extremely disadvantaged marginal zones on the periphery. Some rural areas are well developed, but there are also semi-desert regions where even subsistence agriculture is tenuous. Last, but not least, there are indigenous zones.

Finally, Puebla was chosen for its proximity to Mexico, which made the survey costs less onerous and data collection monitoring more effective and convenient.

(ii) Selection of zones

For implementation of the research project, zones were selected on the basis of two *a priori* conditions. The first was that there be five zones of the following types: an average urban zone, a marginal urban zone, a developed rural zone, a marginal rural zone and an indigenous population zone. The second was that the number of schools in the sample would not exceed 80, for budgetary reasons.

On the basis of 1980 census data (the most recent available at the time of sample selection), the various municipalities of the State of Puebla were ranked by increasing order of the percentage of the labour force in agriculture, and of the illiteracy rate of the population over 15 years old[3]. On the basis of this list, it was possible to identify five groups of municipalities with unequal development in terms of the chosen indicators.

With the help of the State's education officials, the research team was able to identify, within each of these five groups of municipalities, a contiguous zone best corresponding to the previously defined characteristics.

The zones ultimately selected were the following:

- average urban zone: the District of San Baltasar Campeche in the capital city of Puebla;
- marginal urban zone: the District of Libertad Tecola in the western suburbs of the capital of Puebla;
- developed rural zone: the Commune of Zacatlán, Ahuacatlán and Tepango de Rodrìguez;
- marginal rural zone: the Commune of Ixtacamaxtitlán;

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[3] These two rates are, in fact, very strongly correlated.

- indigenous rural zone: the Commune of Cuetzalan del Progresso.

All the primary schools in each of these zones were included in the sample. In each school the survey covered the headteacher and all the teachers. In addition, open interviews were conducted with all the teachers of Grades IV and VI, as well as with one Grade I teacher, chosen at random.

The evaluation tests and the pupil questionnaire were given to all fourth and sixth grade pupils, provided the number of pupils in each class did not exceed 25. If this number was greater than 25, a random selection of 25 pupils was made from all the sections of that grade in the school.

Pupils' parents were selected in the following manner: for both the fourth and sixth grades, the parents of two good learners, two average learners and two poor learners, as evaluated by the teacher, were chosen. At each school, then, 12 parents of pupils were interviewed.

Table 3 gives the composition of the different items in the sample.

Table 3. Puebla: Composition of the samples

Composition of the samples	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Number of schools	16	16	14	15	16
Number of teachers					
• Surveyed by questionnaire	177	94	72	26	44
• Open interview	44	43	39	20	32
Number of pupils taking the tests	737	579	520	209	224
• Grade IV	368	310	276	114	130
• Grade VI	369	269	244	95	94
Number of parents	179	174	158	122	110
• Grade IV	89	87	82	67	64
• Grade VI	90	87	76	55	46

(iii) Zone profiles

- *The average urban zone: Puebla*

Two thirds of Puebla's labour force work in the service sector, and the rest are in the industrial sector, which includes, among others, textile, food processing, chemical and electrical industries. However, as all cities having experienced very rapid growth, job creation has not kept pace with the growing population, which has led to high income disparities among various social groups. Moreover, like all large cities, Puebla also suffers from certain typical problems: deterioration of the city centre, chaotic public transport, water pollution as a result of sewage run-off into the rivers, and growing shanty towns on the periphery of the city. The illiteracy rate is very low, only 5.1 per cent of the population of 15 years old or more.

The selected district of San Baltasar Campeche is situated in the southern part of Puebla. It has the advantage of constituting part of a metropolis, with consequent access to virtually all urban and social services. It is a residential district of the traditional type, which started to become urbanized 50 years ago, with very rapid growth at one point, which has since stabilized.

The network of primary schools in this district is very well developed, but the demand is so strong that many children are forced to go to school in other parts of the city. There is no shortage of institutions at the secondary level, and even the University of Puebla is very close by.

- *The marginal urban zone: Libertad Tecola*

Not so long ago, the marginal urban zone was still a subsistence agriculture region, tilled by farmers with very small plots of land. However, because of the proximity of the city of Puebla and its power of attraction, this zone was rapidly transformed, losing its agricultural base little by little as it received a substantial inflow of migrants. At present, even though immigration is no longer as high, the population still depends on subordinate jobs in the capital (particularly in the construction sector), and on whatever informal economic activity there may be. The zone's average family income barely exceeds the minimum salary and many women are forced to work as domestic help.

Rapid population growth has made access to social services rather problematic, in so far as both health and education are concerned. In fact, primary education coverage is not complete, and pre-school and secondary coverage is clearly insufficient. The dearth of means of communication and public transport is another major problem, since a significant proportion of the population has to go to work in the capital.

Somewhat paradoxically, it is also because of Puebla's proximity that the quality of primary education in this zone leaves much to be desired. Teachers actually prefer to live in Puebla itself, either because it is easier to find other economic activities to supplement their income, or to take up studies with a view to obtaining a promotion, or even to leave the teaching profession altogether. The combination of long travelling time and unreliability of the public transport system cannot help but affect the punctuality and increase the absenteeism of teachers.

- *The developed rural zone: Zacatlán*

The developed rural zone is situated in the north of the State of Puebla on the border with the State of Hidalgo. This is a high-altitude region with a sufficiently cool climate to allow for cultivation of apples and other temperate country fruit trees. The communities of the region constitute a population of about 74,000 people spread out around Zacatlán, a business and service centre for the region as a whole.

Agriculture continues to be the main activity, with production of fruit for sale, and of corn and beans for self-consumption. Nevertheless, there is a small industrial sector represented by a watch factory, a hospital furniture and wheelchair factory, and a few small food processing companies, producing cider, preserved fruits and jams.

The basic services, and in particular health care delivery, are concentrated in Zacatlán and are in fact distributed very unequally. Housing is rather rudimentary with a high proportion (40 per cent) of tar-lined cardboard roofs. Only two thirds of homes have electricity, and less than half are equipped with running water.

Pre-school education is not very well developed, encompassing less than half of five-year-old children. Primary education coverage is still incomplete, with an enrolment rate of only 77 per cent.

- *The marginal rural zone: Ixtacamaxtitlán*

The commune of Ixtacamaxtitlán, situated in the centre of the State of Puebla, is a highly disadvantaged region in many respects. It is mountainous and arid. Its population is very dispersed and has no collective services. There is a continuous flow of emigrants and the number of inhabitants (28,500) has not changed in ten years.

The main activity is agriculture, primarily subsistence agriculture based on corn and beans. But the zone also produces a limited quantity of potatoes, sorghum, barley and fruit. There is no industrial activity, with the exception of a handful of small artisanal workshops.

The male population has to be satisfied with temporary jobs outside the region, for example work in agriculture (coffee, tobacco or sugar-cane harvesting) or construction labour in Puebla or in Mexico City.

The housing is in very poor condition, and 40 per cent of it consists of just one room. There is no running water, and during the period from March to May the only source of water supply is a small and heavily polluted river, which explains the zone's high frequency of intestinal disorders.

The schools are small in size, with most of them including multigrade classes and many having only one teacher. Because of the difficult living conditions, few teachers willingly come to work in this zone, so it has both a high turnover and a chronic shortage of teachers. Pupil absenteeism is also high, as many children have to take care of animals or work in the fields.

- *The indigenous population zone: Cuetzalán del Progreso*

The commune of Cuetzalán is to be found in a mountainous, densely forested and humid region in the eastern part of the State of Puebla, on the boundary with the State of Veracruz. It is inhabited by a Náhuatl-speaking indigenous population. Indigenous traditions have remained vibrant and the Náhuatl language is spoken everywhere. The local identity is strong and constitutes a source of pride.

The only access to the commune is by a paved road. Public transport undoubtedly exists but it is often unreliable. Some hamlets in the commune are reachable only by dirt roads. The population amounts to 35,500 inhabitants, of whom 14 per cent speak only Náhuatl and 44 per cent are bilingual. The others are *mestizos*, concentrated mainly in the administrative capital, which is an important business and service centre. The illiteracy rate of the population aged 15 years or more amounts to 35 per cent, which is three times higher than the average rate for the State of Puebla as a whole.

The main activity, occupying 75 per cent of the labour force, is agriculture. Before the frosts of 1989, which destroyed most of the plantations, 90 per cent of the arable land was used to grow coffee, and the rest was planted with orange-trees. Owing to the frost damage many peasants were forced to go to Puebla, Veracruz or Mexico City to find work in the construction sector, but without taking their families with them. Coffee production has now resumed, but many large landowners in fact decided to switch to raising cattle.

The industrial sector is represented by a coffee processing plant, located in the commune's administrative capital and belonging to the same family that introduced coffee cultivation to the region 50 years ago. The administrative capital is also an important trading centre, with a market every Sunday where goods from neighbouring regions can be purchased.

Housing conditions in Cuetzalán are rather unfavourable. Even though the average household size is almost six individuals, half these households have to make do with one or two rooms. Of the 36 hamlets making up the commune, only six have running water. On the other hand, electricity is available almost everywhere.

Cuetzalán's education is dominated by bilingual schools, introduced barely 15 years ago. Even though the indigenous population prefers these schools, it must be admitted that their material conditions are very mediocre. Locally recruited teachers are not qualified at the time of recruitment and have to undergo training while already teaching. Because of the size of the local communities, most of the schools are small, with multigrade classes or a single teacher. Nevertheless, access to schools is difficult because of the mountainous terrain. The drop-out rate is high, especially among girls, who often have to stay at home to take care of the younger siblings or to do household chores.

Such are the different locations studied in the State of Puebla, Mexico. They exhibit highly differentiated characteristics, whether in terms of relative wealth, of differences in living conditions, or of socio-cultural diversity.

B. Madhya Pradesh, India

(i) Profile of the State

Situated in the centre of India, Madhya Pradesh, with a surface area of 443,600 km², is the largest State of the Union. Its population of 66 million puts it in sixth place in demographic terms. The average population density amounts to 149 per km² but varies greatly from one district to another.

The population is scattered over 33,065 villages grouped in 45 districts. There is a variety of tribal groups living in Madhya Pradesh. They represent up to 20 per cent of the total population but the vast majority is in the districts of the extreme West. The majority of the population speaks Hindi in the form of different dialects.

The terrain is a mixture of hills with steep slopes, large plateaux and river valleys. The forest covers one third of the land. The main economic activity is agriculture. But the State has important mineral reserves and heavy iron and steel industries in a few centres such as Indore, Gwalior and Bhopal.

Transport and communication facilities are rather poor. The main railways that cross the State were originally built to connect the ports of Madras, Bombay and Calcutta with their hinterlands.

Madhya Pradesh is one of the 10 educationally backward states of India. The literacy rate in 1991 was 44.2 per cent, 58.4 per cent for men and 28.8 per cent for women. This is much lower than the national averages which are respectively 52.2 per cent, 64.2 per cent and 39.2 per cent. *Table 4* gives some indicators which enable a better appreciation of the relative position of the State in terms of education development.

Table 4. Madhya Pradesh: Education development indicators (in percentages)

Indicators	India *Madhya Pradesh*	National average
Literacy rate	% 44.2	% 52.2
Literacy rate of women	28.8	39.2
Enrolment rate in classes I-V	117.7	118.1
Enrolment rate in classes VI-VIII	89.1	80.5
Drop-out rate in classes I-VIII	67.2	64.1
Drop-out rate in classes I-VIII for girls	80.1	68.7

(ii) Selection of zones

The choice of locations to be covered by the study was done in three stages. The first stage consisted in selecting five districts, out of the State's 45 districts, with differentiated development characteristics, in terms of rate of urbanization, percentage of tribal population, percentage of the population employed in the primary sector, and literacy rate.

The selection resulted in the following districts being chosen:

- a privileged urban zone: Indore;
- a semi-urban zone: Gwalior;
- a developed rural zone: Rajnandgaon;
- a marginal rural zone: Rewa;
- a tribal population zone (scheduled tribe): Mandla.

In the second stage, in consultation with local authorities and in particular with the official responsible for education in each district, the school inspector and several primary school headteachers, the research team identified the specific sites and primary schools to be included in the project. These sites are the following:

- part of the New Palacia district of the city of Indore;
- the north-eastern part of the township of Dabra in the district of Gwalior;
- a group of 11 villages in the Block of Dongargaon in the district of Rajnandgaon;
- a group of 11 villages in the southern part of the Block of Rewa in the district of Rewa;
- a group of 14 villages in the zone of Baiga Chak that straddles the two Blocks of Bajag and Karanjia in the district of Mandla.

Finally, the definitive sample was composed as shown in *Table 5*.

Table 5. Madhya Pradesh: Composition of the sample's different components

Components of sample	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Tribal *Mandla*
Number of schools	12	12	11	12	12
Number of teachers	30	31	22	15	13
Number of pupils	839	580	409	254	77
• Grade IV	401	284	210	124	44
• Grade VI	438	296	199	130	33

(iii) Zone profiles

- *The urban zone: Indore*

The city of Indore is one of the most developed urban zones in the State of Madhya Pradesh. With a population of 829,000, it extends over a surface area of 114 km², which gives a population density of 7,306 per km². The literacy rate is very high in comparison to the other zones: 69 per cent for men and 51 per cent for women.

The city is well provided with infrastructure: four post offices, 16 hospitals, clinics and maternity wards, two railroad stations and a bus station. It is home to 98 kindergarten schools, 423 primary schools, 195 lower secondary schools and 52 upper secondary schools. It also has a university, a school of medicine, a school of engineering and 17 post-secondary schools of arts and sciences.

The proportion of non-agricultural jobs is 97 per cent. Naturally it is the service sector that predominates, but there are also some factories and the industrial sector is far from negligible.

Within the city of Indore, it was the district of New Palacia that was chosen for the study. This district has four government schools, four aided private schools and four non-aided private schools.

- *The semi-urban zone: Gwalior*

The semi-urban zone selected for the study is the township of Dabra, with a population of 33,400 and a surface area of 37.9 km², hence a density of 831 inhabitants per km². Dabra has a railroad station with connections to other localities and to the area's administrative centre. It also has a bus station and the road network is fairly well developed; the township does provide running water but half the drinking water consumed is drawn from private wells. The literacy rate among men is almost as high as in Indore (51.2 per cent) but it is only 26.0 per cent among women.

Cultivation is possible with irrigation, but it occupies only 10 per cent of the labour force. Here again it is the services sector that predominates.

In this township of Dabra, just as in Indore, there are four government schools, four aided private schools and four non-aided private schools.

- *The developed rural zone: Rajnandgaon*

The developed rural zone selected for the study of Madhya Pradesh includes 11 villages, six of which are along the road from Dongargaon to Rajnandgaon, and therefore have very good services. Five of them even have a bus stop and three have post offices.

These villages are also quite large, with population ranging from 1,604 to 655, for an average of 913 inhabitants. Agriculture is the main activity, occupying four fifths of the population. The literacy rate is rather high, and is in fact comparable to that of urban zones. Depending on the village, it varies from 36.1 per cent to 59.2 per cent for men and from 8.4 per cent to 26.4 per cent for women.

- *The marginal rural zone: Rewa*

The marginal rural zone also includes 11 villages, but access to them is more difficult. Only three of them are reachable by a permanent, but very badly maintained road. Five are accessible by dirt roads and the rest by paths. Only one of these villages has a bus stop and a post office. The closest railway station is 50 kilometres away.

These villages also have smaller populations than in Rajnandgaon: varying from 121 to 1,943, for an average of 630 inhabitants. In some of the villages, the proportion of the population belonging to scheduled castes is greater than one quarter. The same is true of the population with tribal origins. The literacy rate is lower than in Rajnandgaon, ranging from 24.8 per cent to 46.9 per cent among men, and from 1.9 per cent to 22.1 per cent among women.

- *The tribal population zone: Mandla*

This zone with a population of tribal origins is a densely forested zone with very little cultivated land. It consists of a group of 12 villages, 90 per cent of whose inhabitants belong to the Baigas tribe, considered to be one of the least developed in India. They depend on fishing, hunting, gathering and harvesting wild honey, and, to a small extent, on agriculture for their livelihood. Artisanal activities could have developed in Mandla with the forest as a source of raw materials but, unfortunately, due to transportation problems there are very few. The only artisanal activity is tobacco production and processing.

These villages have very small populations, from 123 to 534, with an average of 294 inhabitants. The proportion of the population with tribal origins varies from 80.0 per cent to 99.5 per cent. The literacy rate is very low indeed: from 1.1 per cent to 37.9 per cent among men and from 0 per cent to 5.9 per cent among women.

Access to these villages is very difficult. Only one of them is reachable by a permanent road, and this is the village with the zone's only post office and dispensary. Two others are accessible by dirt roads, and the remaining villages only by forest paths.

The administration of education in this tribal zone is also rather special: the primary schools are established and managed by the Ministry of Tribal Development, but pedagogical supervision remains the responsibility of the Ministry of Education. This dual control obviously gives rise to many co-ordination and monitoring problems.

In this country, too, the study encompassed rather contrasting situations, with notable differences from the point of view of living conditions and level of socio-cultural development.

C. Guinea

(i) Profile of the State

The Republic of Guinea covers a 246,000 km² territory on the extremity of West Africa; it has 480 km of Atlantic Ocean coastline.

Guinea is split up into five administrative regions, one of them being the capital city of Conakry, on the coast, and the others corresponding to the country's four natural regions: *Maritime Guinea* (with Kindia as administrative centre) which covers the entire coastal zone; *Middle Guinea* (with Labé as administrative centre) which is a mountainous area; *High Guinea* (with Kankan as administrative centre) which is a savannah region; and *Forest Guinea* (with Nzérékoré as administrative centre) which has a sub-equatorial climate.

According to the 1983 census, Guinea then had 5,780,000 inhabitants and an average annual growth rate of 2.1 per cent, which would result in a 1990 population of approximately 6.7 million. Life expectancy at birth is 38 years.

The rate of urbanization doubled between 1965 (12 per cent) and 1984 (27 per cent) and continues to accelerate. This urbanization is occurring mainly in the largest city, Conakry, which had 80 per cent of the country's urban population in 1980, as opposed to only 37 per cent in 1960.

French is the official language and also (since 1984) the language of instruction. It is spoken among a small minority of the population. The main indigenous languages of Guinea are Malinké (30 per cent of the population, predominant in High Guinea), Fulfuldé (28 per cent, predominant in Middle Guinea) and Soussou (16 per cent, predominant in Maritime Guinea).

Guinea is first and foremost a mining country. It is the world's second largest producer and primary exporter of bauxite; it also has very substantial reserves of iron ore, diamonds and gold. In 1988 mining products represented 86 per cent of the value of exports. Even though 81 per cent of the labour force is occupied by agriculture, this sector accounts for only 30 per cent of the GDP. It is mainly subsistence agriculture operating on the basis of small family holdings. Potential of course varies quite unequally from region to region, but there has been substantial degradation of soil quality and forest cover. The large population of Conakry is an additional destabilizing factor, and dependence on food imports is becoming greater and greater. Finally, a structural adjustment policy, under the aegis of the International Monetary Fund (IMF) and the World Bank (IBRD), has been in place since 1986. It affects all sectors, including the education sector.

When the French left in 1958, there were 42,543 pupils in primary education, 2,547 in secondary education and no post-secondary education at all. Enrolment growth between 1958 and 1960 was meteoric, but it then followed a flatter curve up to 1988. The gross enrolment rate in primary education in 1990 amounted to 28 per cent.

The Sékou Touré regime, which lasted from 1958 to 1984, conducted an education policy with several noteworthy characteristics: elimination of private schools in 1961, primacy of political and ideological training, 1965 declaration making it obligatory to use the eight national languages in primary education and to provide literacy training for adults, shifting of priorities in favour of post-primary education as from the 1970s, automatic recruitment of graduates by the civil service.

As of 1984 the authorities of the Second Republic recognized the serious shortcomings of the school system, and in particular the very bad condition of primary education. French was re-instituted as the language of instruction that same year. Moreover, in order to stop the degradation of the education system and to revitalize it, they adopted an Education Sectoral Adjustment Programme *Programme d'Ajustement Sectoriel de l'Education* (PASE) in 1988. This programme gave priority to primary education with the objectives of expansion (an enrolment rate of 70 per cent in the first year of primary against 35 per cent in 1987/1988) and quality improvement (with a special effort in the areas of teaching staff, repetitions, pedagogical means and school infrastructure). An end was put to automatic recruitment by the civil service.

(ii) Selection of zones

When selecting zones to be studied, the national team opted for inclusion of all the regions of Guinea. This selection was done mainly on the basis of school development, and resulted in the following six zones:

- an urban zone: Conakry I, the first of the capital city's three districts;
- a semi-urban zone: the town of Kankan, administrative centre of the department of the same name;
- a developed rural zone: Kindia, consisting of the two sub-prefectures of Mambia and Samaya in Maritime Guinea;
- a semi-developed rural zone: rural Kankan, covering five sub-prefectures (Tokounou, Moribaya, Tinti-Oulen, Missamana and Sabadou-Baranama) located to the south of the town of Kankan;
- a forested rural zone: Nzérékoré, represented by the sub-prefecture of Bounouma in Forest Guinea;
- a marginal rural zone: Labé, including three sub-prefectures in the region of Fouta-Djalon.

All the schools in each of these zones were included in the sample, as were all the fourth- and sixth-grade teachers. As far as the teachers of other grades were concerned, in the four rural zones they were all included, but in the urban and semi-urban zones a sub-group was selected at random.

In the case of pedagogical evaluation tests, in the four rural zones the sample was again complete, including all pupils, whereas in the urban and semi-urban zones, each school provided samples of 25 pupils, selected at random from all sections, for each of the fourth and sixth grades.

As for pupils' parents, the intention was to compare those of pupils who were still in fourth grade with those of pupils who had dropped out before that level. Therefore in each school *with fourth grade classes* eight pupils were selected at random: four from the list of fourth-grade pupils already included in the sample, and four from a list, drawn up on the basis of the school's records, of those who had dropped out the previous year in third grade, or in case the number was not sufficient, in second or first grade. The families of these eight pupils were then covered by the survey.

The total numbers of surveyed individuals in these various categories are shown in *Table 6*.

Table 6. Guinea: Composition of the sample

	Urban	Semi-urban	Devel. rural	Semi-dev. rural	Forested rural	Marginal rural
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Nzérékoré*	*Rural Labé*
Schools	7	8	12	21	12	15
Teachers	60	30	25	38	30	39
Pupils						
• Grade IV	186	197	106	104	139	103
• Grade VI	176	215	140	129	135	187
Total	362	412	246	233	274	290
Parents of pupils						
• At school (Grade IV)	27	32	16	20	20	17
• Having dropped out	13	28	16	12	18	12
Total	40	60	32	32	38	29

(iii) Profile of zones

- *The urban zone: Conakry I*

This zone corresponds to one of the three prefecture breakdowns of the city of Conakry, the capital of Guinea. Surrounded on three sides by the sea, it still exhibits the impact of colonial town planning, with rectangular blocks of houses and rectilinear throughways (10 avenues and 12 boulevards) lined with mango-trees and running on even ground. The nine districts making up this zone are the city's oldest. This is where one finds all the ministerial headquarters and all the major banking, postal, telephone, hospital and broadcasting services. These are complemented by the head offices of major businesses and airline companies, not to mention the embassies and the cathedral in all its majesty, next to more modest mosques inserted among areas of habitation. This is still where one finds the oldest and most sought-after primary schools of the country. The rest of the agglomeration abuts against and applies pressure on this smart zone with its degraded environment. In fact this is the zone that concentrates the greatest number of public and private salaried employees, artisanal activities and fisheries (nine wharfs). Apart from the artisans and the fishermen, the salaried employees, from ministers to humble office workers, tend to work rather than to live in the zone. It is they and their families who talk most eloquently about difficulties of transport, time budgeting and the budget itself, in the present structural adjustment circumstances.

It is also in the schools of this zone that all these commuting salaried employees have their children educated. It is the place where demand for school vacancies is highest, even though the physical conditions of the facilities are somewhat crowded and degraded. The strength of this demand is reflected by the greatest average number of pupils per class (66) after urban Kankan, the highest proportion of repeaters and the lowest absenteeism and drop-out rates. The association of these three criteria may seem ambivalent, but one can better understand it by keeping in mind the two functions of schooling, namely training and socialization. The parents of pupils at Conakry I schools, 80 per cent of whom are salaried employees and 90 per cent of whom are literate (51 per cent of the fathers went beyond primary school), definitely look to their children's success at school as a first objective, but when this success does not occur they nevertheless keep their children at the school. It is preferable that they be socialized at school, even if they do not learn very much, than that they roam the streets of a city where the unemployment rate is very high.

- *The semi-urban zone: town of Kankan*

As a provincial town that is very rural in character, Kankan is actually not very far removed from natural conditions, for urban amenities, even collective fountains, are very rare. Its constantly growing population (it is Guinea's second largest city) is nevertheless rather mixed, with many languages, both national and foreign, being spoken in addition to Malinké. The community's common bond is the Islamic religion. There are many well-attended Koranic schools, and, apart from school textbooks, Koranic books make up most of the written literature in circulation. People do listen to the radio, but the reception of the national stations (Conakry and Bamako) is poor, and television with its better reception is starting to become popular.

Kankan presents an original physical, social and cultural picture, with cohabitation of the old and the new, the rural and the urban, the foreign and the indigenous, in a special sort of symbiosis. Literacy rates are still low, and a large proportion of those who are literate read in Arabic. Widespread school attendance goes back only to the 1950s, but there is now a strong demand among young people, especially boys. Apart from the high enrolment rate (one of the highest in Guinea), this demand is manifested by the exertion of very strong parental pressure on existing schools (an average class size of 71), due to the emerging aspirations of a class of merchants, of groups of urbanized farmers and of civil servants.

- *The developed rural zone: Kindia*

This zone covers a semi-mountainous site consisting of rings of hills and lower-lying rice fields. The soil is generally very good for growing fruit (bananas, pineapples, avocadoes, mangoes and citrus fruits) and vegetables (tomatoes, lettuces, cabbages, eggplants), which are much sought after by the inhabitants of nearby Conakry (130 km). The excellent asphalt road leading there runs through the zone and allows for substantial trade with the capital. However, the accessibility of individual villages in the interior of the zone is very unequal, with some locations reachable only by canoe since the formation of two artificial lakes in the sub-prefecture of Samaya. The villages are bunched in groups and offer an enhanced traditional habitat (round huts but also rectangular banco huts covered with sheet metal).

Apart from the enclave of the Kindia Bauxite Office, in Débélé-Cité, the entire zone lives on the land, agricultural work, occupying 90 per cent of the Soussou-speaking inhabitants. In addition there are nomadic Peul herders ranging between Mambia and Forécariah, depending on the season. Apart from four medical stations and a few wells built by a specialized national service, the zone has no other service infrastructure, and in particular no electrification. People listen a lot to the radio (Conakry is not far), some watch television, but there are very few books in circulation. The entire population is Muslim by religion, on the basis of Islamization from Fouta-Djalon; Koranic schools are numerous and attended to the extent of providing strong competition for public schools, in which the State invests but little.

One has the impression that the zone of Kindia finds itself physically and culturally between two worlds, that of Conakry, the cosmopolitan city that is an important trading partner and that is very attractive to the younger generation, and the world of Fouta Islam, very present in daily practices and in the system of educational values, with a particularly strong impact on girls.

- *The semi-developed rural zone: rural Kankan*

This zone covers five sub-prefectures to the south of the town of Kankan, on the grassy savannah of the vast plain of the Upper Niger basin, dotted with occasional islands of trees (kapokiers and baobabs).

Agricultural production is heavily dependent on the quality of the rainy season, although the water-collecting valleys have the advantage because they allow for year-round growing of vegetables for sale in Kankan. The zone is crossed by two major roads leading toward Kissidougou and Kérouané, but the situation of the inter-village network is not as good, even though the terrain is rather level. The dwellings, consisting of banco huts that are often covered with sheet metal, are concentrated in villages, but they can be very far from one another and sometimes they are walled. Bicycles and motorcycles are often used but they are distributed unequally. For example, Missamana, in the middle of the vegetable zone has one bicycle per five residents and one motorcycle per 50 residents, while Tokounou has one bicycle per 130 and one motorcycle for 600 inhabitants.

The zone is homogeneous in social, cultural and religious terms, in that it is populated by a majority of farmers (with a significant admixture of animal husbandry and fishing) speaking Malinké and practising an open Islam that is characteristic of a population used to circulating and with its ear to the outside world. However, in economic and monetary circulation terms, one has to make a distinction, with all the attendant consequences, between the part of the zone within Kankan's hinterland and fulfilling an important function of agricultural supplier for that town, and the more southerly part where the villages are much more isolated, even walled in some cases, and benefit from fewer incentives and facilities. In both parts there are quite a few traditional Koranic schools, that is, run by marabous who bring together their dozen or so pupils in the morning and evening outside the usual hours of field work.

The demand for public schooling is still weak. Public schools are no more attractive than elsewhere, and they are confronted with populations of farmers who live in small and very dispersed villages, and who do not place formal education high enough on their scale of values to give it some local dynamism, even though they exhibit no overt hostility. This is perhaps understandable when one considers that the social fabric within which the school operates, based on information gathered from pupils' parents, consists of 74 per cent farmers, with 67 per cent of the fathers and 94 per cent of the mothers having never attended school.

- *The forested rural zone: Nzérékoré*

This zone is in the heart of a very hilly forested area criss-crossed by deep valleys. The alluvial soils of these valleys and the humus soils of the mountainsides are ideal for growing tropical plants, which are planted on plots cleared out of the forest. The zone is characterized by a high degree of fragmentation into small farming villages, because of the irregular access through the forest, with concentrations around the best land. Contact between villages is difficult. Sometimes there are only forest paths, and when roads do exist, in particular between the various administrative centres, crossing water courses on shaky bridges is always an adventure, especially for motorized vehicles. It is precisely because of their terrain that the inhabitants of this Guinean region were able to resist colonial penetration for a long time.

It is a region where collective behaviour is currently dominated by the search for a cultural identity. Colonization was resisted, the spread of Islam is very limited, but the way has been opened to Christianity against a solid animist background. This results in coexistence of traditional education, which supports the villagers' social cohesion (ancestor worship in holy places in the forest, masked societies, circumcision of boys and excision of girls), and formal education with a window on the outside world. However, it is the christianization-schooling association that competes with tradition. In both cases the public schools (there are no private schools and almost no Koranic schools in this zone) are the winners in a symbolic sense.

The concrete reality is that Christians, as Muslims in fact, are very much in the minority in the sub-prefecture itself, the education demand is still very weak, and the drop-out rate high at all levels of schooling. Farmers, who constitute 97 per cent of the population and 78 per cent of pupils' parents, are nevertheless in favour of schools, and they are also in favour of French literacy campaigns for adults, which are rather well attended, but they consider the cost of school to be high, and the future of a pupil after school uncertain, whereas putting a child to work in the fields brings an immediate return.

- *The marginal rural zone: rural Labé*

This zone is in a typical massif site of the Fouta-Dajalon, with vast plateaux, several mountains and valleys, resulting in an alternation of woody savannah, sparse forest and dense forest. The altitude and the fragility of the soil do not allow for agriculture as diversified as in the zone of Kindia, and cattle raising is only a partial compensation. The dwellings (round banco huts with straw roofs) are very dispersed, even in the sub-prefecture administrative centres, which are really just small hamlets with several metal-sheet roofs. Transportation relies on roads that are mostly very mediocre, especially in the rainy season when they are barely usable, and during which long detours are necessary when wooden bridges are washed away by high water.

This zone is economically, socially and culturally very homogeneous because it is almost entirely populated by Muslim Peuls practising a mixture of crop cultivation and animal husbandry. This is an agricultural production system based on the use of an individual family space, the *tapade*, the centre of all activity and subsistence, enclosed by a fence, which leads to dispersion of dwellings. This *tapade* is supplemented by fields that are also fenced in, to protect them from damage by the herd. This pure subsistence system has evolved very little in a generation, except that the surface areas are declining, there are more mouths to feed, and family individualism is growing stronger. Despite reception difficulties, people listen to Radio Conakry which does transmit in Peul. Apart from a few rudimentary health care delivery points and some wells, there is no public infrastructure. Koranic schools are very dynamic, and as representatives and transmitters not only of theological knowledge, but also of a specific attitude to time and to the world, and of a very integrated system of values that stands in opposition to changes coming from the outside, they are definitely in competition with public schools. The region's overall primary school enrolment rate is very low (6.8 per cent in 1983), and the fact that the literacy rate is much higher (25 per cent but only 14.7 per cent among women) is mainly due to literacy in Arabic.

Due to the combined effect of an episodic and limited offer by the State, and of a theocentric vision of the world and of society, the demand for education remains at a level that gives public schools little impetus. They lack attraction and do not offer a real alternative choice for the young, who increasingly reject the previous generation's values.

The six zones we have just described exhibit very different characteristics. In terms of geography, demography, living conditions and economic, social, cultural and academic characteristics, they are a very good illustration of how diversified the Guinean environment can be. From the most privileged urban zone to the most remote rural zone, they express a wide variety of local situations, as a function of which one can more precisely examine the interaction between school supply and demand, and the role played by the environment in school functioning and performances.

D. Zhejiang, China

(i) Profile of the Province

According to the 1990 census the population of the province of Zhejiang was 41.44 million and in 1989 the non-agricultural population constituted approximately 17 per cent as opposed to 21 per cent in China. However, being a coastal province, Zhejiang is economically among the more developed in the country. On the whole, Zhejiang may be considered a relatively well developed agricultural province. In 1990, the Chinese *per capita* national income was 1,271 *yuan*.[4] The figure for Zhejiang was 1,667 *yuan*.

The province is divided into two broad regions: the north-east and the south-west, the south-west being mountainous and the north-east composed of plains. As in the rest of China, this determines the economic situation in Zhejiang: the mountainous south-west is generally less developed and more rural; the north-east tends to be more developed and urban.

Great disparity exists within Zhejiang. In 1990, within the 11 prefectures (known as cities) in the province, *per capita* national incomes varied from 860 to 2,599 *yuan*. The disparities between the 51 counties was even greater, with *per capita* income ranging from the maximum of 3,024 *yuan* to the minimum of 442 *yuan*.

Despite its economic wealth, Zhejiang does not rank among the highest in terms of educational achievements. *Table 7* compares the main educational development indicators of the province with the averages for the whole of China.

Primary schools in Zhejiang are either of five or six years duration. The net enrolment rate in primary education is practically 100 per cent. The general endeavour in terms of educational expansion in Zhejiang is to improve attendance at junior secondary level. In 1989, 1,065 of the 3,188 townships in Zhejiang were certified as having achieved nine years of compulsory education. This was higher than the national target of 40 per cent of the population by the year 2000, since these were the more heavily populated townships. As will be apparent in the next section, one of the main reasons why Zhejiang was chosen for the study is its outstanding disparity.

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[4] At the time of this study, the exchange rate was US$1 = 3.7 *Yuan* in local currency.

Table 7. Zhejiang: Main education development indicators

Indicators	*Zhejiang*	National average
Illiteracy rate in 1990	17.5	15.9
Net enrolment rate for primary education in 1990	99.3	97.8
Gross enrolment rate for primary education in 1990	119.3	125.7
Repetition of grade I in 1989	8.0	17.5
Gross promotion rate for 1989 (Grade VI to jun. sec.)	81.7	71.5
Drop-out from junior sec. school in 1989	6.7	7.3
Number of senior sec. education graduates per 100,000 inhabitants	7,006	8,039
Number of higher education graduates per 100,000 inhabitants	1,170	1,422

(ii) Selection of zones

Five research sites were selected from the province of Zhejiang, each site representing the equivalent of one or two townships. The sites were chosen from counties of differing *per capita* income and differing degrees of industrialization. Data on *per capita* income for every county in Zhejiang were extracted from the provincial Statistical Yearbook and were arranged in descending order. Cumulative data on population were then obtained according to the rank order. The entire province was subsequently divided into five separate parts of equal population in ascending *per capita* incomes. Finally, the exact sites were selected subject to two criteria: (a) that the sites ranked in the middle of the respective parts (with the exception of the richest and the poorest, which tend to be in the extremes); and (b) logistically the sites were reasonable distances apart to minimize travel and expenditure.

A total of 10 schools were studied in each site and this was adhered to as much as possible. However, each site did not correlate with the Chinese pattern of school distribution. Each site hence comprised townships whose indicators could be rather different. Even neighbouring townships might differ because of good or bad access to land and water. This is common in China, particularly in Zhejiang, which was chosen for its outstanding disparity. Nonetheless, the sites did present, on the one hand, enough homogeneity and, on the other hand, adequate contrasting features to make the study meaningful. The following are the five sites chosen for study:

- urban site: Hangzhou (the capital);
- industrial rural site: Shaoxing (a fairly industrialized rural county);
- advanced rural site: Yuyao (an advanced rural county);
- a developing rural site: Longquan (an under-developed rural county);
- minority site: Jingning (a poor rural area with minority ethnic group).

For each site the general profiles were studied. One or two leaders, in charge of education, were interviewed. In each site, all schools were studied for the research. It was not always possible to include 10 schools from each site as this would have meant including a third township, which was not possible because of the disparity between townships. Schools, schoolheads, class teachers, teachers, parents and students were studied. *Table 8* summarizes the size of the sample.

Table 8. Zhejiang : Composition of the sample

	Urban	Industrial rural	Advanced rural	Develop. rural	Minority
	Hangzhou	*Shaoxing*	*Yuyao*	*Longquan*	*Jingning*
Number of schools*	10	10	8	7	6
Number of principals	10	10	8	2	2
Number of teachers **	41	37	26	14	9
Number of pupils (Grade IV)	386	290	286	109	109
Number of pupils (Grade VI or Grade V where applicable)	369	315	325	150	124
Number of parents interviewed	69	60	61	14	20

* Only 10 schools from Urban, 10 schools from Industrial Rural and 4 from Advanced Rural returned questionnaires.

** Interview conducted as a follow-up to each questionnaire.

(iii) *Zone profiles*

- *The urban site: Hangzhou*

The city of Hangzhou, capital of Zhejiang, is a highly urbanized city by Chinese standards. Despite the fact that the two neighbourhoods chosen for study were mainly residential areas, local industry and commerce operated as either collective or individual endeavours. There was an output of 32,684 *yuan* in 1989 which was entirely industrial. Hangzhou benefits from practically all the privileges of transport and communication. It also has a long cultural tradition and has a theatre and many libraries.

The Province of Zhejiang operates primary schools at three levels: *centre* or *experimental schools*, *complete schools* and *village schools*. Complete primary schools are primary schools with all grades, compared with the village schools which do not teach all grades. Complete primary schools are given more resources than village schools and their facilities are governed by different levels of requirements. Centre schools or experimental schools are the selected few which are given extra resources in anticipation of excellence. In the provincial capital of Hangzhou all primary schools were complete schools with comprehensive facilities of their own. The enrolment rate for both primary and junior secondary school was almost 100 per cent.

- *The industrial rural site: Shaoxing*

Shaoxing is a county in northern Zhejiang. It is on the rail-line and was also among the earliest ports open to international trade. As is the case elsewhere in China, economic development is highly dependent on transport. The railway has become vital for economic prosperity. Hence, regions along the rail-line are usually economically more developed. The two neighbouring townships, which were selected for the purpose of this study, represent more developed rural communities. Both of them are of relatively high population densities. Their economic activities are still agricultural in the main, but rural industries account for most of the wealth.

Shuangmei, one of the townships, is a rural area with substantial rural industry. Although only 35 per cent of the labour force were involved in agricultural activities in 1989, 97 per cent of the total output came from industry. In Xingtang, the other township, agricultural activities occupied a similar 36 per cent of the labour force. Of the total annual output in 1989, 93 per cent was industrial. Hence the industrial rural site represents a fairly industrialized rural area. Chasing is also a culturally enriched county.

This zone is also well equipped in terms of transport and communication. Practically all of the villages have access to rail and water transport while some are also served by public buses. Similarly, all villages have postal and telephone services, as well as radios. It may be worth noting at this point that overall, transport and communication services in all the sites are relatively well established by developing country standards. The communication network, including the postal service, telephones and radio broadcasts, was one of the major achievements of the People's Republic in its early years.

As regards education provision in the county, there are many complete primary schools with enrolment reaching almost 100 per cent. Although junior secondary enrolment was also very impressive, the promotion rate of 35 per cent from junior secondary to senior secondary was significantly lower than the urban zone, which recorded a promotion rate of almost 100 per cent. In terms of educational attainment, three times more people in Xingtang had senior secondary education than in Shuangmei.

• *The advanced rural site: Yuyao*

Yuyao is a *city* which is virtually a county[5]. It is situated in the north-western region of the province. It is another county with a high population density which reflects its economic development. The rail-line passes through the county. However, there is a substantial part of Yuyao which is mountainous and hence the disparity within the county is very significant. Two counties, Shuanghe and Dalan, were selected for study. Both represent rather less developed rural areas in a rather rich part of the country. Their relatively favourable incomes are attributable to the small yet significant industrial sector. Shuanghe was more developed than

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[5] Such cities are often known as county-level cities. The title *city* is in effect the recognition of the development of a place. There are national *cities* which are usually called municipalities: Beijing, Shanghai and Tianjin. There are cities at provincial level, such as Hangzhou (in this study). Then there are cities at prefecture and county level. There is no official stipulation on the award of the title *city* to a place. It is usually a matter of discretion for the provincial authority.

Dalan, the former consisting of 44 per cent mountainous area and the latter being entirely mountainous.

Approximately half of the labour force in Shuanghe were engaged in agricultural activities. In 1989, 65 per cent of the total output was industrial. In Dalan, the other township under study, 81 per cent of the labour force were involved in agriculture. In 1989, just over half of the total output was industrial. The advanced rural site is basically rural, with a substantial degree of industrialization. Nevertheless, the transport and communication conditions are not so favourable. Shuanghe is near the rail-line, while the mountainous areas in the south-east suffer from transport problems. Furthermore, there is no direct access to water transport in either Shuanghe or Dalan. Hence, Yuyao is underprivileged in terms of transport. However, as mentioned earlier, the communication network is considerably developed in Zhejiang and all villages have a postal service; however, not all of them are connected to the telephone network.

Although complete primary schools do exist in the advanced rural site, they are supplemented by village schools which are given less resources and are therefore less well-equipped. The pattern illustrates the resource distribution among the sites, and disparities inevitably arise. In other words, the poorer the locality, the less its schools receive from the government. Nevertheless, primary school enrolment was very impressive and in terms of educational attainment, this zone is significantly higher than other rural areas, even though its economic performance is not necessarily the highest among rural sites. This may account for the outstanding performance of some of the students in this site in the tests during this study. In addition, it also indicates that educational attainments are not strictly related to economic status.

- *The developing rural site: Longquan*

Longquan is near the southern border of Zhejiang. It is among the less developed counties in the province. Two townships were selected: Baoyun and Fengming. In both townships, only a trivial percentage (1 per cent or less) of the labour force was involved in industrial activities. Yet, because of the low agricultural productivity, industrial outputs still accounted for a substantial percentage of the respective total outputs.

In contrast with the above two sites, the industrial sector in the developing rural site has yet to develop. In the township of Baoyun, only 200 people were involved in rural industry at the time of this study. Industrial output accounted for about 30 per cent of the township's total output. In Fengming, 86 per cent of the labour force was involved in some kind of agricultural activity. Industrial output only accounted for 22 per cent of the township's total output in 1989.

This zone suffers from transport difficulties. It took the research team a whole day to travel from the urban site to the prefecture town, and another three hours to reach the seat of the county town. Neither of the townships chosen for study had access to rail or water transport and public buses served less than half of the villages. All villages benefited from postal services, while less than half had access to the telephone network. However, the existence of libraries and theatres would suggest that it was quite a cultural area.

In one of the townships, Fengming, there was only one complete school, supplemented by a cluster of village schools, as opposed to 10 complete schools in Baoyun. Enrolment in primary education was very high, as was the promotion rate from complete primary to junior secondary; however, the promotion rate from junior secondary to senior secondary (12 per cent) was the lowest among all the sites.

- *The minority site: Jingning*

Jingning is an *autonomous* county where minority policies prevail. The *She* constitutes the major ethnic minority group living in Jingning. The present study was carried out in two townships: Shawan and Waishe, within close proximity of each other. Jingning is mainly a county of mountains, many of which are over 1,000 metres high. This may explain the general economic difficulties in Jingning. Agriculture is the prime economic activity, transport and basic services are the main non-agricultural activities.

At the time of this study, 87 per cent of the labour force was engaged in agricultural activities, with 88 per cent of the total output being agricultural. Apart from a minimal scale of industry, the non-agricultural activities are mainly related to transport and basic services. The farmers' *per capita* annual net income was 255 *yuan*, which was below the national poverty line of 300 *yuan*.

As regards transport and communication, the township's only contact with the rest of the county was by means of public buses, which covered only two of the six villages. There was one post office and no telephone service. Furthermore, in terms of cultural facilities it was also very limited, having only one library.

Like the developing rural zone, it had only one complete primary school and many village schools. The enrolment rate of primary schools was almost 100 per cent, but the promotion rate from village primary to junior secondary was very low. Even though enrolment in junior secondary schools was very low, the promotion rate from junior secondary to senior secondary was higher than that of the developing rural site.

This zone is not densely populated, hence, not surprisingly, there are plenty of natural villages in this zone. Each of these natural villages should have a school or a teaching site because it is often difficult to travel from one natural village to another[6]. However, these schools or teaching sites are understandably small in scale and inefficient in economic terms. Unfortunately, it is exactly in these areas that economic productivity is low and resources are short. Poorer localities face less efficient options.

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These profiles of zones in the four countries will serve as a background for the comparative analysis carried out under this project, which involves relating the functioning and the results of primary schools, by taking into consideration the local context within which the school operates. The main results of this analysis are presented in the following chapters.

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6. Natural villages are very small rural settlement areas which are scarcely populated.

Part II

Analysis of the functioning of schools

Chapter I

The pupils, the parents and the school

Educational planning generally makes very little allowance for the requirements of education demand, especially at the level of basic education. The typical diagnosis includes a good analysis of the education system's coverage, as well as some information about the financial resources, on the quality of the service offered and, less often, about results. Various aspects of demand, however, that is, the living conditions of pupils, what the parents expect from the school, the reasons for which children do not go to school or dropout, etc. are rarely considered, even though it is recognized more and more that the interaction between the school and its environment is not always harmonious. Indeed, the concept of the school that one finds in most plans and programmes is based on a certain number of implicit hypotheses about the demand: that pupils are motivated to go to school, that they are supported and encouraged by their parents, that they are available for regular school attendance, that they are in good health, that the proposed curriculum is of interest to them, etc.

Even though it is known that many of these hypotheses are not confirmed in reality, few research studies are being carried out in order to find out more about them and to provide decision-makers with a better information base. Starting from this observation, some information was collected as part of this project, from a restricted sample of parents of pupils, in Guinea, in Puebla (Mexico) and in Zhejiang (China). Moreover, a small amount of information was also gathered directly from pupils in all four countries: China, Guinea, India and Mexico. These data are undoubtedly limited and fragmentary. They nevertheless allow for a better understanding of certain aspects of the education demand, and they lead us to question some of the classical hypotheses about its interaction with school supply.

I. The living conditions of pupils

There is a well-known gap in living conditions between urban and rural zones. Children from rural zones (and those from marginal urban zones as well) are prevented from taking full advantage of the education offered to them by cramped and dangerous housing, by a lack of essential furniture at home, by the absence of certain basic services such as water and electricity, and by many other material problems. In the indigenous zone of Puebla, for example, half the pupils live with their entire family in a single room; only one third of households visited have electricity, and only one half have a radio. In Zhejiang, half of all students in the urban site have their own room, in the rural areas this is the privilege of only one or two out of five students. To live in houses made of mud walls is still common in the less-developed rural areas in Zhejiang, for a large majority of the children. In the more developed regions, brick and concrete houses are the norm. In the rural zones of Guinea and of Madhya Pradesh, the situation is similar to Puebla or Zhejiang and even worse. But these material difficulties of everyday life are not the only obstacle to normal school attendance. What is just as worrisome, or perhaps even more so, is that these rural children have only very limited access to the world of written communication outside school.

(i) Access to written communication

In Puebla, access to reading materials other than school textbooks is negligible, and opportunities for children to practice or witness reading and writing in the family are very limited. Between 50 to 65 per cent of parents questioned in the three rural zones stated that they had less than 10 books at home. The situation in the marginal urban zone is identical. On the other hand, the same answer was given by only 25 per cent of parents interviewed in the privileged urban zone.

When questioned about their reading habits, more than 60 per cent of interviewees (in most cases mothers) in this same urban zone answered that they read at least twice per week, whereas the corresponding rates were only 35 per cent in the marginal urban zone and about 25 per cent in the three rural zones (see *Figure I.1*). Even if the frequencies are approximate, the figures are telling and the contrasts among zones are striking.

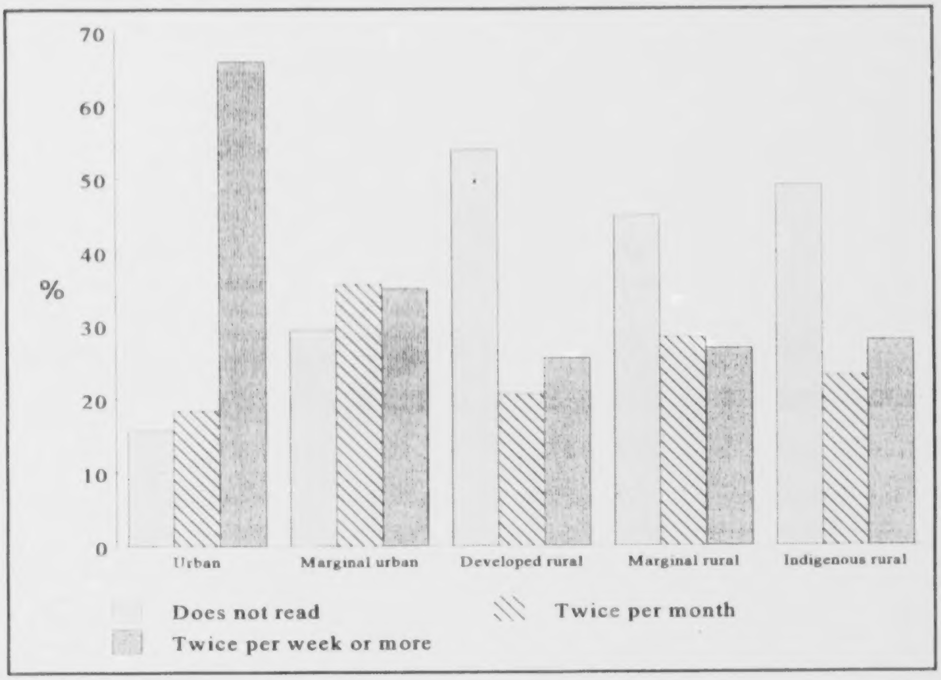

Figure I.1. Puebla: Distribution of interviewed parents by reading frequency

When one looks at the type of reading done by the interviewees, one notes that in the rural zones and in the marginal urban zone, the most frequent reading materials are school books and other books for children, followed by magazines and comic books, which are very popular in Latin America, and then by newspapers. On the other hand, in the urban zone it is newspapers that come first, although school books are still important (see *Table I.1*). The parents who claim to read in rural zones (a small minority) are therefore referring mainly to reading connected with their children's school work. Other types of reading are rare.

The data on students' reading habits in Zhejiang show a very different picture. They indicate that the vast majority of students (nearly 90 per cent) do read outside the curriculum, regardless of the site. In most places in China, there are indeed student newspapers at different levels of the school system, and students do subscribe to such newspapers. As a result of the large number of readers, they are probably more viable in China than elsewhere in the world. Furthermore, in many provinces, a special team is allocated to edit and produce such newspapers.

Table I.1. Puebla: Distribution of interviewed parents by type of reading (allowing multiple responses)

	Urban	Marginal urban	Developed rural	Marginal rural	Indigenous population
Type of reading	*Puebla*	*Libertad Tecola*	*Zacatlàn*	*Ixtaca-maxtitlàn*	*Cuetzalan*
School books	22.1	44.5	35.6	36.5	42.6
Children's books	1.8	1.1	3.4	3.2	3.7
Magazines, comics	27.4	21.1	32.2	33.3	27.8
Newspapers	36.3	23.3	16.9	20.6	20.4
Encyclopaedias, dictionaries	2.7	-	1.7	-	-
Religious books	9.7	10.0	10.2	6.4	5.5

As regards the subject matter of outside reading, there is one notable difference between the sites. War stories, *wu-xia*[1] and thrillers are the favourites in the rural sites; science fiction scores highest among urban readers (see *Table I.2*).

The data for the other countries on this variable are not exactly the same, however; information collected from students in Madhya Pradesh reveals a similar situation to that of Puebla. Books other than school textbooks are very rare in families living in the three rural zones (only between 4 to12 per cent of children state that there are more than 10 books at home), and newspapers and periodicals are even rarer (between 1 to 7 per cent). On the other hand, these two types of publication are relatively common in the two urban zones: about one third of children state that there are more than 10 books at home, and half that there are newspapers or periodicals in the house. The only indicator we have for Guinea suggests just as deplorable a situation: the proportion of parents claiming to have more than 10 books at home varies from 6 to 20 per cent in rural zones, and amounts to only 35 per cent in the two urban zones.

Of course, that the child has little contact with the written word outside school is due not only to the paucity of publications available in households, but also to the low level of education of the parents.

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[1] These are novels with chivalrous or Robin Hood figures, often with vivid and elaborate descriptions of martial art action.

Table I.2. Zhejiang: Distribution of favourite areas of pupils reading outside school (allowing for multiple responses) (pupil questionnaire)

	Urban	Industrial rural	Advanced rural	Developing rural	Minority
Area	*Hangzhou*	*Shaoxing*	*Yuyao*	*Longquan*	*Jingning*
Popular science	12.7	13.3	8.2	9.7	4.8
Science fiction	40.8	12.9	12.2	5.8	4.4
War stories	6.8	22.3	31.6	29.6	33.9
Wu-xia	6.6	26.5	17.6	13.9	19.4
Romance	0.6	0.2	0.3	1.4	1.7
Thrillers	10.6	14.4	16.5	15.7	19.7
Sports	3.2	2.8	2.4	5.9	4.8
Movie magazines	3.3	1.3	3.8	3.7	3.0
Classical novels	14.9	6.3	6.9	13.8	8.3

(ii) The level of education of parents

It is often considered, with respect to the schooling of children, that the parents' – and especially the mother's – level of education is of primary importance[2]. In the rural zones in Puebla, between 30 to 40 per cent of mothers of interviewed families never went to school, and between 40 to 50 per cent attended, but did not complete primary school. In the case of rural zones in Madhya Pradesh, the proportion of mothers who never attended primary school varied from 80 to 90 per cent, and in Guinea from 80 to 100 per cent. The data on Zhejiang showed that the disparities between regions and between fathers and mothers was also considerable. Less than 10 per cent of parents in the urban site in the Zhejiang sample were either illiterate or attended, but did not complete primary school. In the rural regions, however, this was the case for 40 to 60 per cent of fathers and 60 to 80 per cent of mothers.

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[2] Many studies have been written on the relationship between parents' and children's education. An overview of recent evidence is given by Marjoribanks (1994) and Alvarez and Iriarte (1991). More specific information can be found *inter alia* in : Chernichovsky (1985), Patrinos and Psacharopoulos (1995),Varnava-Skoura, (1992) and Ilon and Moock (1991). For a focus on the role of mothers, see King, E., and Hill, A. ed., (1991).

In many countries the difference between the language spoken at home and the teaching language makes it more difficult for parents to assist their children with school work. The problem of not knowing how to read and write is compounded by that of being unable to communicate with the child in the language used at school. This problem makes the gap between urban and rural zones even wider. In Guinea, for instance, in rural zones the percentage of mothers who can read and write in French – the teaching language used in schools – varies between 0 per cent and 10 per cent, whereas in urban Kankan it is 25 per cent and in Conakry it is 30 per cent. It should be noted that, while this problem is particularly acute in Guinea, it is by no means absent in Puebla, Madhya Pradesh or Zhejiang, given the presence of indigenous groups. In Madhya Pradesh there is also the fact that, in certain regions, the Hindi taught at school is different from that spoken at home. The same is true for Zhejiang province, where the people speak a dialect which is different from the standard national language used in schools.

Under these circumstances, the support that parents can give their children for school work is inevitably very limited. An interesting example is that of homework.

(iii) Assistance in doing homework

Almost all teachers, in all the countries studied, assign work to be done at home, in both the rural and urban zones, and they implicitly count on parents to supervise, if not to assist, children with their homework[3].

In Puebla almost all interviewed parents, in all zones, state that children do in fact bring work home. *Table I.3* below gives an idea of the assistance that children actually receive in doing this work.

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[3] See *Chapter V.*

Table I.3. Puebla: Distribution of children by assistance received in doing homework (parent questionnaire)

Assistance received from	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlàn*	Indigenous population *Cuetzalan*
Nobody	31.9	38.7	45.3	54.3	52.6
Mother	44.2	16.9	17.9	8.6	11.2
Father	6.7	12.5	10.2	19.0	10.1
Brothers or sisters	11.6	26.2	20.5	14.6	17.0
Others	5.6	5.7	6.1	3.5	9.1

It can be noted that half the children in rural zones, against approximately one third in urban zones, do not receive any assistance. In the privileged urban zone it is mainly the mother who helps the child, whereas her role in the rural zones and the marginal urban zone is very limited, because, as we have seen, a high proportion of these mothers have not been to school. In these zones, assistance is extended more by brothers and sisters, and to a lesser extent by the father.

Once again, the same trends are confirmed in Guinea and in India, Madhya Pradesh, except that in these two cases children in rural zones not receiving any assistance are more numerous – between 50 to 70 per cent. It should be added that in these two countries the percentage of children who never have homework is also greater, at about 30 per cent in the rural zones of Guinea and about 20 per cent in the rural zones of Madhya Pradesh.

In Zhejiang, the question who assists children with homework was not asked. But some information related to the time spent on homework was collected. Almost all students spend some time on homework every day. This is not surprising in the Chinese context where homework forms part of a student's lifestyle. Little difference exists between rural and urban students. There exists some difference however concerning one factor which might enable them to do homework successfully: a separate desk. Four out of five urban students have a separate desk, in comparison to half or less than half of students in the rural areas (see *Figure I.2*).

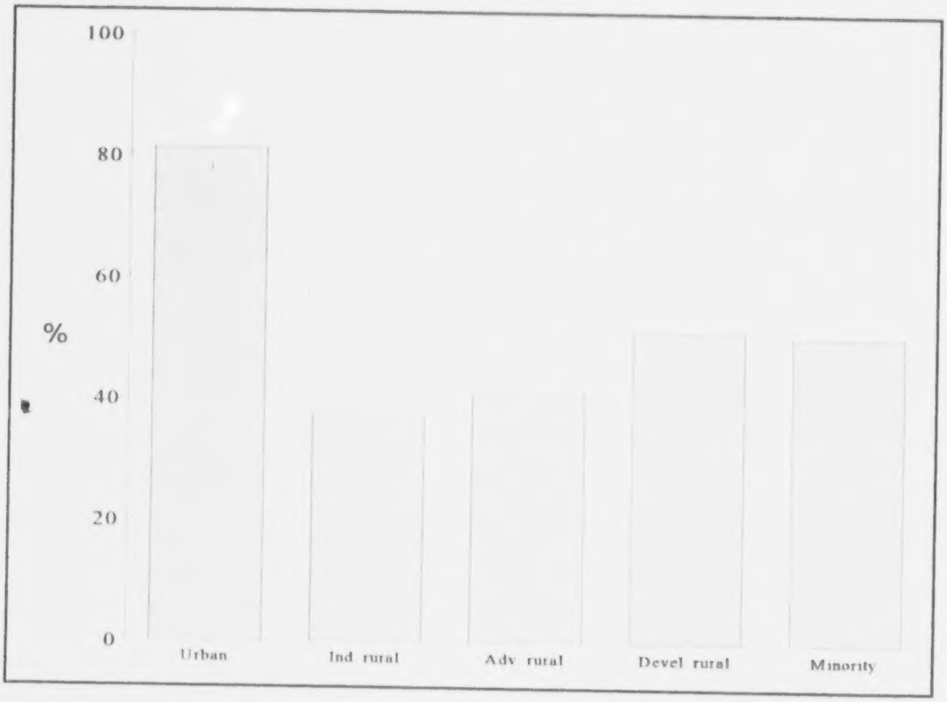

Figure I.2. Zhejiang: Percentage of students with separate desks at home (Pupil questionnaire)

(iv) Child labour

Two other factors connected with the living conditions of children are worthy of consideration in any analysis of relations between schools and families. These are the non-school work that children often have to do at home or elsewhere, and their state of health. As we shall see later, these are the two reasons most frequently given, by both parents and teachers, for irregularity in school attendance. But their consequences go far beyond that. A child who is not in good health and/or has to contribute to the livelihood (if not the survival) of his family cannot benefit as much from school as one not suffering from these handicaps. He will probably have worse results and will end up leaving school earlier.

In any event, it must be affirmed that, in the three countries where we were able to collect some information on the subject, child labour is common[4]. In Guinea, more than half the children, whatever the zone, state that they regularly help out at home or in the fields. The percentages are higher in rural zones than in urban zones. But even in Conakry more than half the children were involved (see *Figure I.3*).

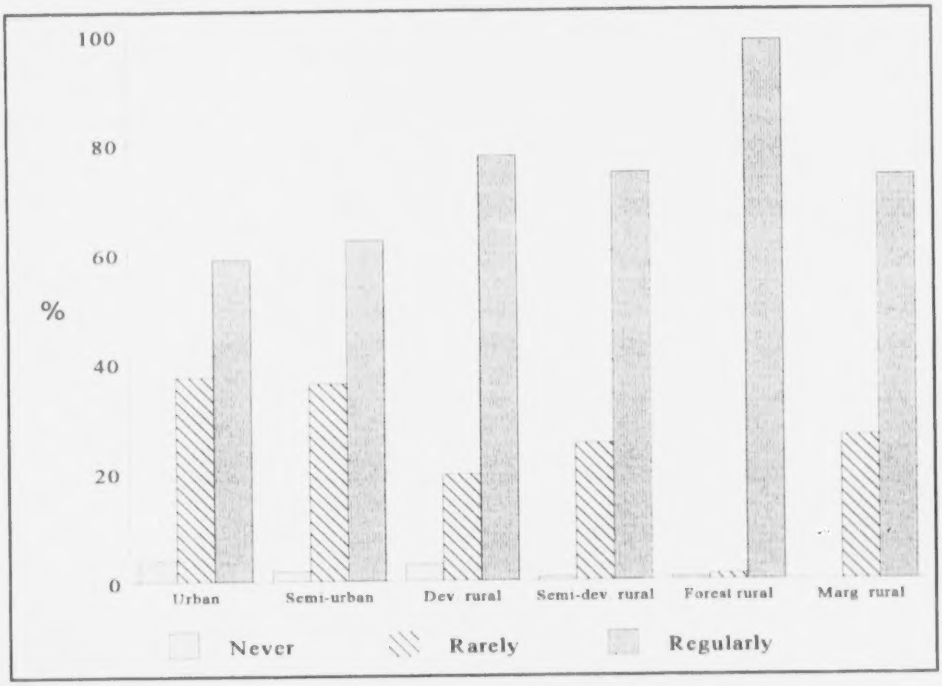

Figure I.3. Guinea: Distribution of children by frequency of their contribution to household work (child questionnaire)

A more detailed analysis does not show up significant differences between boys and girls, except in town where girls are slightly more involved.

The results of the parent survey in Puebla show that children there also have many responsibilities at home in addition to school work. *Table I.4* gives the percentages of parents who state that their child is regularly or even very regularly given responsibility for certain tasks. One notes that minor household and shopping chores are the rule in all zones. In the case of caring for younger brothers and sisters, there is already a clear difference between the privileged urban zone and all the others. But when we come to working in the fields or caring for animals, the correlation with the zone's degree of development is systematic. Children from the least developed zones, whose learning conditions are the least favourable, are also those most heavily burdened with non-school work. This situation is particularly discriminatory for children from the rural marginal and indigenous zones.

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[4] This is confirmed by the findings of a recent study (Cammish, N.K., 1993) covering six countries: Bangladesh, Cameroon, India, Jamaica, Sierra Leone and Vanuatu. The percentage of children who at times had to stay away from school to work at home varied between 23 per cent in Vanuatu and 92 per cent in rural Bangladesh. In all countries, more rural than urban children miss school days in order to work.

Table I.4. Puebla: Percentage of parents stating that their child regularly does household or other chores

Type of work	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlàn*	Indigenous population *Cuetzalan*
Housework	72.0	70.1	73.0	68.2	75.0
Shopping	67.1	83.4	70.3	71.0	82.2
Caring for siblings	29.1	46.5	44.7	43.5	52.0
Work in the fields	2.8	26.6	29.1	48.5	50.9
Caring for animals	12.4	38.5	50.4	65.9	71.1
Other	3.4	6.3	4.9	5.8	4.8

In Zhejiang, two questions were asked: one relating to non-school related housework, the other to production activities. In all the zones, only a small minority (between 6 and 10 per cent) was never involved in any housework but about half of them were unable to indicate the amount of time spent on a regular basis. For those who could tell, most of them spent less than one hour per day on housework.

As for the involvement in production work, the contrast between urban and rural areas is strong. As indicated in *Table I.5*, most of the students in the urban site are never engaged in such type of work, while in all rural areas a large majority is. Again most respondents could not tell the exact time they spent on production work. The table also shows that less students in the developing rural and minority sites do production work than in the industrial and advanced rural sites.

Table I.5. Zhejiang: Percentage of learners involved in production work

	Urban	Industrial rural	Advanced rural	Developing rural	Minority
Sites	*Hangzhou*	*Shaoxing*	*Yuyao*	*Longquan*	*Jingning*
> 2 hrs	0.3	2.0	2.9	0.8	4.3
1< x < 2	0.3	3.3	5.6	4.2	4.7
0.5 < x < 1	1.9	5.3	4.9	13.5	8.6
< 0.5	2.9	6.1	7.5	3.5	9.4
Varies	2.9	73.6	61.5	51.7	46.4
Never	90.7	9.4	17.3	25.9	26.2

(v) State of health

Regarding illness of pupils, or more generally their state of health, we have a few data for Puebla[5]. Answers to the question: "Did your child have to stay away from school for long periods for health reasons?" are set out in *Figure I.4*. As can be seen, affirmative answers varied but little from zone to zone, except for the indigenous zone, which showed the greatest number of health problems. This is the same zone where inoculation of children is most irregular (only 65 per cent of children in interviewed families had received all the usual vaccinations against 93 per cent in the urban zone), where diets are least balanced, and where the percentage of children eating only two meals per day is highest (43 per cent against 10 per cent in the urban zone), as is the percentage of children who had not eaten before going to school on the day of the survey (17 per cent against 12 per cent in the urban zone). This is also the zone where gastro-intestinal disorders are most frequently mentioned by parents to explain absenteeism from school (25 per cent of responses against 2 per cent in the urban zone), in addition to respiratory illnesses, which seem to be the most common in all zones.

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[5] For more detailed information on the relationship between health and education, we can refer to Levinger (1996) and to Nkinyangi and Van der Vynckt (1995).

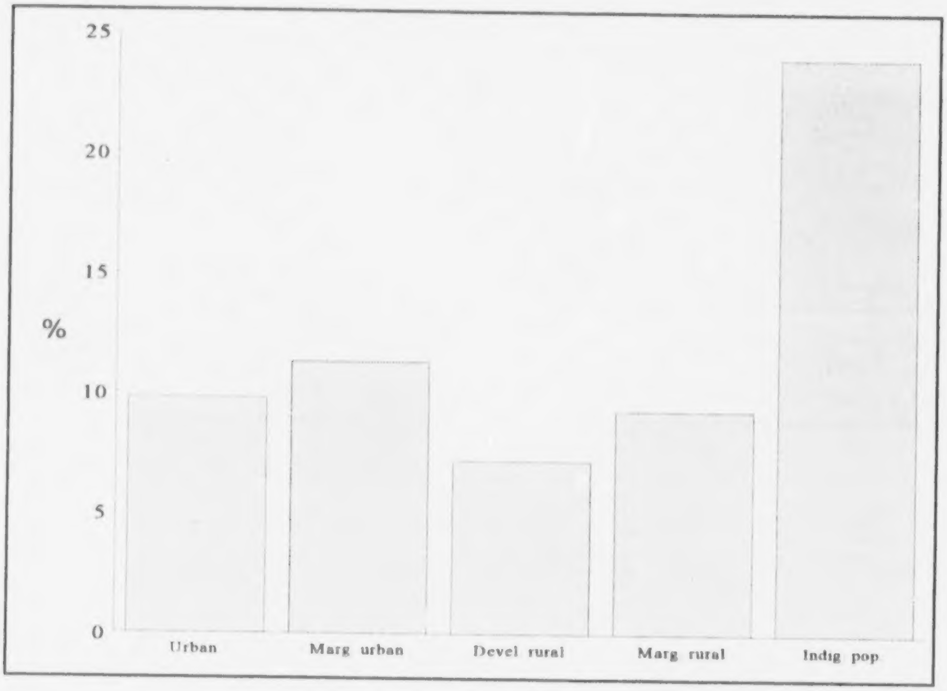

Figure I.4. Puebla: Percentage of parents stating that their child had to stay away from school for relatively long periods for health reasons

II. Parents' opinions about the school and its teachers

What do parents think of the school? What do they think of its teachers? What contact do they have with them? We tackled these questions from two different angles: that of the parents first and then that of the teachers[6]. By putting a number of common and distinct questions to these two groups, we tried to achieve a better understanding of the relations between these two agents, who play key roles in education. This investigation pertains mainly to Guinea and Mexico, since there was no parent survey in India. In Zhejiang, China some related questions were asked but only to local leaders and to a few parents.

What immediately strikes the observer in Guinea is that parents, or at least parents whose children attend school, have a good or even a very good opinion of the school and its teachers in all the zones. Neither the teachers nor the school are criticized. On the contrary, *Table I.6* shows that more than 90 per cent of parents in all zones find that the school is better or much better than the one they experienced about 10 years previously. In fact, their positive feelings are consistent with the chaotic situation of Guinean primary schools at the end of the preceding regime, when national languages had been introduced as teaching languages without sufficient preparation. When asked to explain their assessment, many parents actually answered that the school seemed better because the instruction was in French. This answer was given by 60 per cent of parents, as an average over the six zones, with extreme points ranging from 78 per cent in Rural Kankan to 40 per cent in Labé (where Koranic schools have the greatest influence). Among other reasons given, those most common included the view that children learn better since school is now full-time, and since political activities and productive work at school have been discontinued.

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[6] A detailed analysis of some of these issues is presented in *Chapter IV*.

Table I.6. Guinea: Distribution of parents by their opinion on the quality of the present school as compared to that of 10 years ago

Quality of present school	Urban *Conakry*	Semi-urban *Urban Kankan*	Developed rural *Rural Kindia*	Semi-devel. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Much better	45.0	44.8	3.1	34.4	35.1	10.7
Better	47.5	53.4	93.8	65.6	62.2	82.1
The same	5.0	-	3.1	-	2.7	7.2
Worse	2.5	1.7	-	-	-	-

This rejection of the pre-1984 school system, with a clear preference for a more traditional school model, where teaching is carried out in French, where pupils can repeat, etc. is widely shared by teachers, as shown by the answers to two specific questions about possible changes in the present schooling system. These questions pertain precisely to the teaching of national languages in conjunction with French, and the abolition of repetitions.

The massive rejection, in most of the zones, of the introduction of national languages in addition to French is very directly a function of the bad memory left by the preceding regime's linguistic policy. Hence it would be dangerous to generalize this result to other countries. However, this rejection does clearly illustrate the possibly disastrous effects of a centrally imposed and especially of a poorly planned reform.

Figure I.5 is a good illustration of the concordance of views on these two subjects between teachers and parents.

As regards the issue of repetitions, the opinions of parents and teachers should again be interpreted in the light of the Guinean context. Generally speaking repeaters are numerous, even though this possibility is excluded in several rural schools, because of their special system of recruitment and operations. Under this system, a teacher is 'attached' to a group of pupils, whom he follows through to the end of the level, after which a new batch of first-grade pupils is recruited for him. But this special system does not seem to make either parents or teachers more favourable to automatic promotion. Despite the abundant literature arguing (for economic, socio-psychological and pedagogical reasons) for the abolition of repetitions[7], the opinion of Guinean parents and teachers is understandable and is partly confirmed by the research. As we shall see later, repeating a grade in early primary school does not amount to the same thing in Guinea as in many other countries. It is not a reason for withdrawal, and seems to have a positive impact on learning.

However, the satisfaction of Guinean parents with their present schools is not just a rejection of yesterday's schools. In answer to the more specific question of whether the teacher took good care of their child, parents provided exactly the same level of positive responses (more than 90 per cent on average), with no significant differences either among zones or between parents whose children were still at school and those whose children had withdrawn. In a more general way, all parents, with just a few exceptions, find that teachers do their work seriously and provide the children with good guidance. The majority of parents (80 per cent) also feel that these same teachers are not well paid.

And yet, it must be noted at the same time that Guinean parents do not know their children's school and teachers very well. As shown in *Table I.7*, between 10 to 40 per cent of interviewed parents, depending on the zone, state that they have never met their child's teacher, and those who claim to have frequent contact represent the majority in only one zone.

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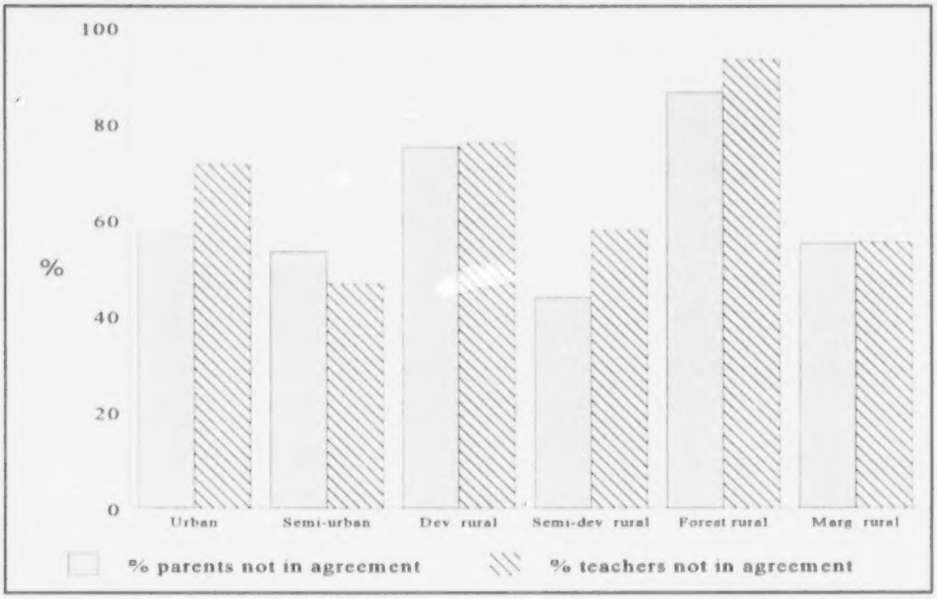
[7] A comprehensive analysis of studies on the effect of grade repetition on student achievement can be found in Holmes (1989) while Schiefelbein and Wolff (1993) give an overview of the state of this issue in Latin America.

a) Introduction of national languages



b) Abolition of repetitions

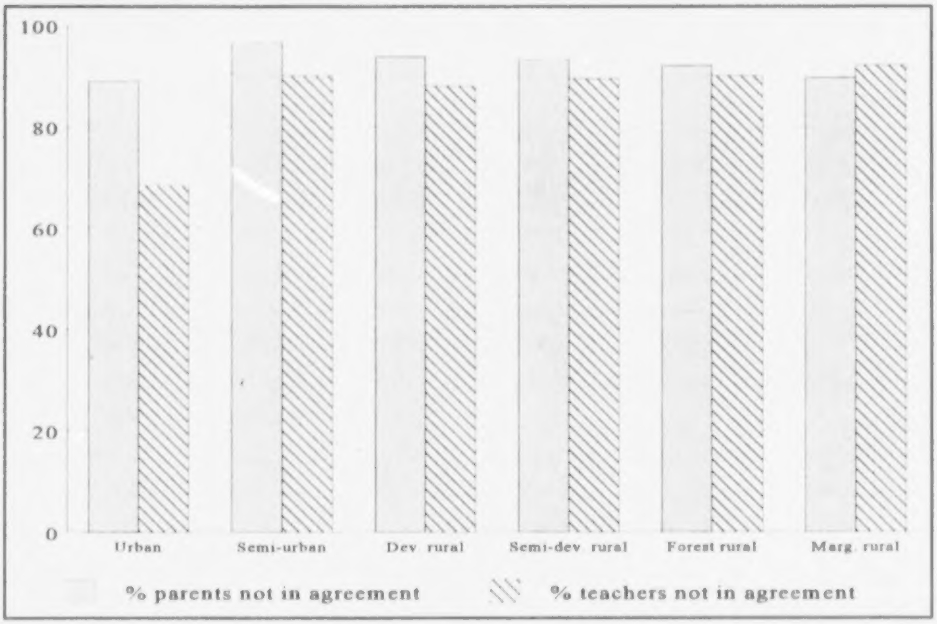


Figure I.5. Guinea: Percentages of parents and teachers not in agreement with the introduction of national languages and with the abolition of repetitions

In fact, further discussions with parents show that many of these contacts, especially in rural zones, take place outside the school and often have nothing to do with the children's education.

Chapter IV will discuss at greater length these relations between the school and parents in the functioning of schools, where the information collected from teachers will be used. Suffice it to note here that these contacts are not as close as one might have thought.

Table I.7. Guinea: Distribution of parents by frequency of their contacts with the teacher

Frequency of contacts with the teacher	Urban *Conakry*	Semi-urban *Urban Kankan*	Developed rural *Rural Kindia*	Semi-devel. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Never	12.8	21.7	21.8	18.7	39.5	10.7
Sometimes	46.2	58.3	31.3	31.3	23.7	10.7
Often	41.0	20.0	46.9	50.0	36.8	78.6

In Puebla, the situation is similar to that of Guinea, but only to a certain extent. Once again, many parents do not have a critical opinion of schools. Parents who feel that schools are bad are the exception, but their general level of satisfaction is well below that of the parents of Guinea. A solid proportion of parents consider that schools are no better than acceptable. Moreover, there are marked contrasts among individual zones. Favourable opinions are considerably more frequent in the privileged urban and indigenous zones, and less common in the marginal urban and rural zones (see *Table I.8*). Opinions about teachers follow the same distribution as those about schools, with more or less the same contrasts by zone.

In the view of parents interviewed in Puebla, school quality depends first and foremost on teacher quality. When invited to say what they like most about their child's school, a good proportion of parents referred to the teacher, to his way of preparing lessons and of teaching. This category of answers was well ahead of all the others (infrastructure quality, availability of teaching equipment, etc.). This observation makes it easier to understand the differences among zones.

Table I.8 Puebla : Distribution of parents by their opinion about the quality of their child's school

School quality	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlan*	Indigenous population *Cuetzalan*
Very good	19.3	1.1	7.8	2.4	4.8
Good	53.4	40.5	55.0	46.3	68.0
Fair	26.7	57.8	35.7	49.6	26.2
Bad	0.6	0.6	1.5	1.7	1.0

As we shall see later, it is in Puebla's privileged urban zone that one finds the most experienced teachers and the best organized schools (including several prestigious private schools). Teachers in the indigenous zone are no doubt less qualified, but they are recruited locally, they speak the language of the local population, and they exhibit more motivation. On the other hand, it is in the marginal urban and rural zones that teachers are the least satisfied, express the greatest desire to change schools or even professions, and are generally most distant from the local culture[8].

As for contacts between parents and teachers, they seem to be more frequent in Puebla than in Guinea, even though the proportion of parents stating that they never or rarely meet the teacher to talk about their child remains considerable, ranging from 40 per cent in the privileged urban zone to 70 per cent in the marginal rural zone. It should be noted that it is in the urban zone, where one finds the best-educated parents, that they talk most frequently to teachers about their children's education.

In Zhejiang, some impressions could be gathered from focus group discussions with parents and some limited interviewing of parents and local leaders. They all confirm that education is highly valued by the parents and that there is a general trust in the school and teachers, even if there is a slight belief in some areas that teachers are not as good as they were in the past. Most leaders rated their own schools as above average when compared with other schools in the same county or city district. Indeed, almost all of the leaders were proud of their own schools, many leaders attributing the success of schools in their locality to the good leadership of the principals.

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[8] See *Chapters III and IV.*

III. Educational and occupational aspirations of parents for their children

These aspirations were studied in Guinea, in China, Zhejiang and in Puebla. The contrast between the results obtained in the various countries, which are at very different levels of socio-economic and educational development, have different cultural backgrounds and different political systems, is striking and instructive.

In Guinea, a young country still with very low school attendance and very limited and poorly diversified development, the educational and occupational aspirations of parents whose children have succeeded in overcoming all the obstacles of the first three grades of school, are very high and aimed mainly at the tertiary sector. They are just slightly lower in the rural than in the urban zones. As shown by *Figure I.6* below, none of the interviewed parents want their child to stop after primary school. Quite the contrary, the immense majority aspire to post-secondary studies for their child, although the percentages are marginally lower in certain rural zones.

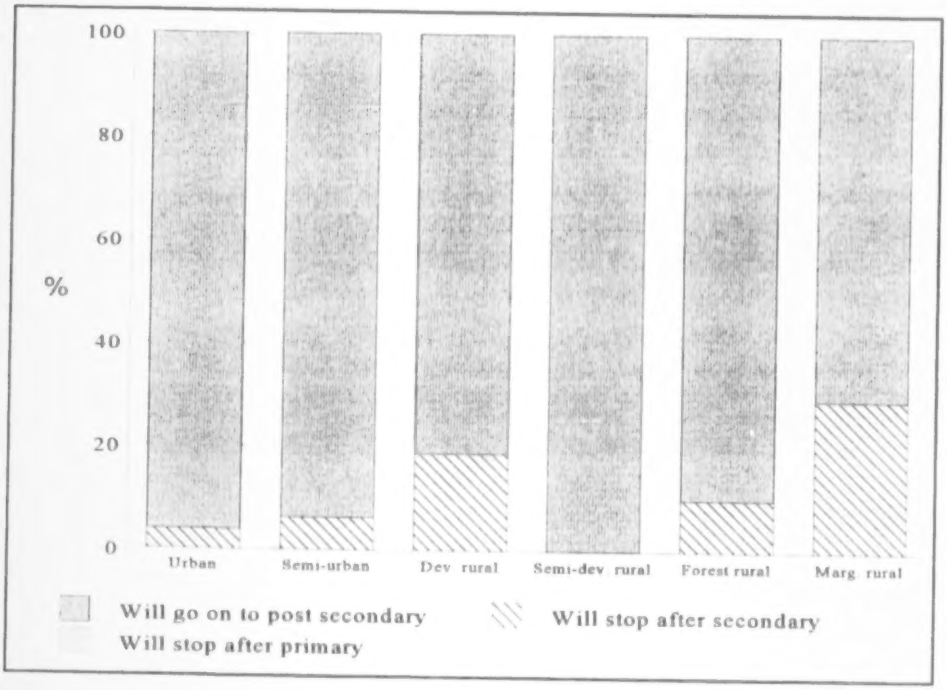

Figure I.6. Guinea: Distribution of parents' educational aspirations for children enrolled in Grade IV of primary

Similarly, occupational aspirations are high everywhere as can be seen in *Table I.9.* Ignoring the parents who state they do not know, in all zones the majority hope that their child will become at least a medium-level professional, with an astonishing interest in the medical professions. A more detailed analysis shows that these occupational aspirations are a function of the father's level of education. The manual occupations (tradesman, labourer) are more frequently mentioned for children whose father has little or no education (completed primary at most), and this is also true of the occupations of soldier, policeman and merchant. These categories are not mentioned at all in the case of children with fathers having attended post-secondary school. In addition, aspirations for girls and boys do not seem to differ.

Table I.9. Guinea: Distribution of parents' occupational aspirations for children enrolled in the fourth grade of primary

Occupational aspirations	Urban *Conakry*	Semi-urban *Urban Kankan*	Devel. rural *Rural Kindia*	Semi-devel. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Tradesman	3.8	3.1	25.0	-	5.0	-
Merchant	3.8	-	-	-	-	5.9
Army/police	-	-	-	-	20.0	-
Labourer	7.7	3.1	6.2	-	-	5.9
Salaried employee	3.8	9.3	18.8	25.0	-	11.8
Medical professions	34.6	56.4	43.8	60.0	70.0	52.9
Senior manager	7.7	25.0	6.2	15.0	5.0	-
Do not know	38.6	3.1	-	-	-	23.5

These very high educational and occupational aspirations are characteristic of a society with very little stratification, in which social mobility has been and still is very strong (even if the social background of pupils is already pointing to some restriction of educational opportunities in favour of socially advantaged categories).

The enthusiasm for the tertiary sector is simply a reflection of the low level of development of the country's secondary sector.

Since the sample of Guinean parents consisted half of parents whose children were enrolled in the fourth grade, and half of parents whose children had withdrawn the preceding year (in their third grade), it was also possible to question parents whose children had withdrawn. Their answers show up other important aspects of parents' social aspirations (see *Figure I.7*). First of all, it is striking to observe that in all zones, but especially in Conakry, a good proportion of parents (between 25 per cent and 73 per cent) intend to re-enrol their child at school at a later date. It is difficult to gauge the actual commitment underlying such statements, but the percentages are impressive. In a way they confirm the enormous hope that parents place in schools, despite the difficulties that caused their children to withdraw.

In any event, parental aspirations for these children who have left school are more modest than for those parents whose children were able to continue their studies, as we see from *Table I.10*. What is most striking is that few parents see their children's future in agriculture, even in the rural zones. They generally want to see them climb at least one rung on the social ladder, by becoming traders, labourers or merchants. Some parents who expect later to re-enrol their children set their sights even higher, especially in Conakry. The 'no profession' category, which is substantial in certain rural zones, pertains only to girls.

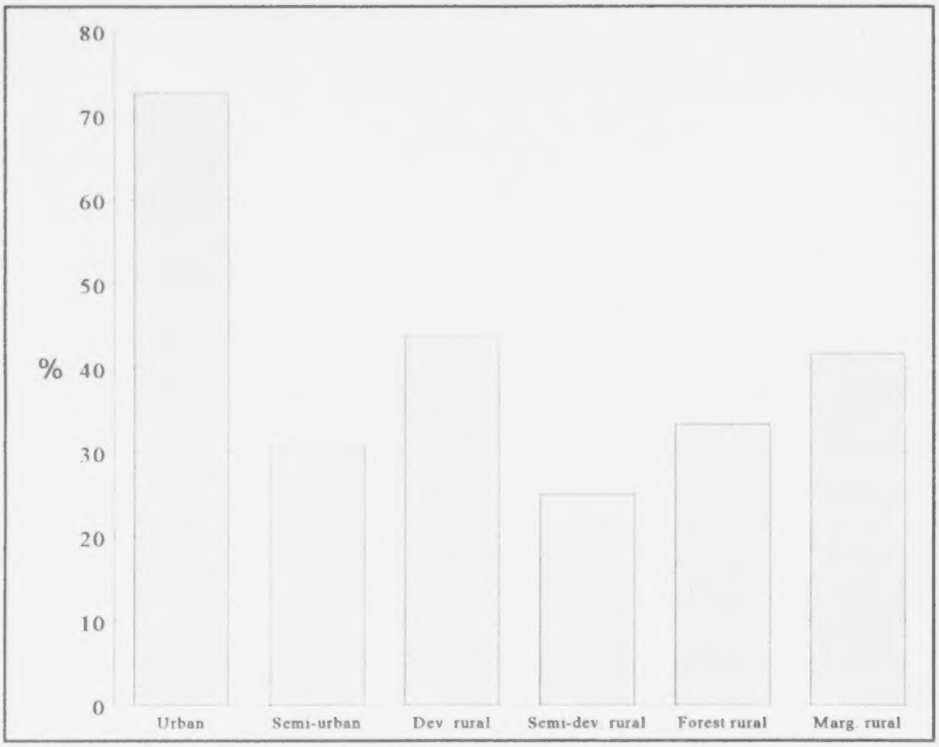

Figure I.7. Guinea: Percentage of parents expecting to re-enrol their child at school after withdrawal before the fourth grade

This parental aspiration of having children leave agriculture is confirmed by the fact that, even in rural zones, between 30 to 60 per cent of parents expect that children who have left school will go to live in town (with an average of 40 per cent for the four zones). For children still at school, the corresponding percentages for the same zones vary between 46 per cent and 100 per cent (with a 75 per cent average).

In a more developed country such as Mexico, already with a high general level of education, with a well-established and relatively rigid social structure, and with more advanced economic development, educational and occupational aspirations are at the same time more moderate and more diversified.

Table I.10. Guinea : Distribution of parents' occupational aspirations for children having left school before the fourth grade

	Urban	Semi-urban	Devel. rural	Semi-devel. rural	Forested rural	Marginal rural
Occupational aspirations	*Conakry*	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*
Agricultural worker	-	7.4	7.2	27.3	23.2	18.2
Tradesman	30.8	44.5	14.3	18.2	23.2	54.5
Labourer	15.3	22.2	7.2	9.1	23.2	9.1
Merchant	-	11.1	21.4	-	-	9.1
Salaried employee	7.7	-	-	-	-	-
Medical professions	30.8	-	-	-	5.8	-
Senior manager	7.7	-	-	9.1	5.8	-
No profession	-	11.1	21.4	36.3	13.0	-
Do not know	7.7	3.7	28.5	-	5.8	9.1

In this case, aspirations are strongly correlated with the various zones' degree of urbanization and development. As shown in *Figure I.8* for the state of Puebla, a good proportion of parents in the marginal rural and indigenous zones expect that their children enrolled in the fourth or last grade of primary will not continue studies beyond primary, and the great majority believe that they will not go beyond secondary. On the other hand, aspirations in the marginal urban and developed rural zones are already higher, without reaching those of parents in the privileged urban zone. Thus parents seem perfectly to have internalized the objective possibilities offered by the different developmental contexts in which they live.

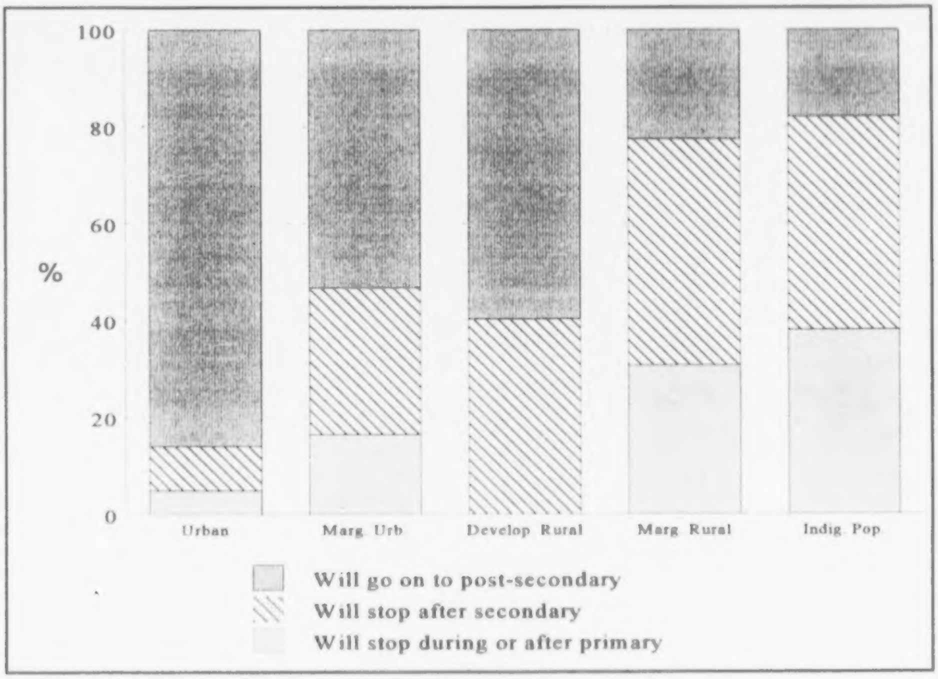

Figure I.8. Puebla: Distribution of parents' educational aspirations for children enrolled in the fourth and sixth grades of school

One finds the same realism in occupational aspirations (see *Table I.11*). As in Guinea, agriculture is not considered a promising occupation, not even in rural zones. But the choices are overall much more diversified and take real employment prospects into account. In rural zones, one hardly aspires to become a lawyer or a doctor but rather an office employee or a tradesman. Only in the indigenous zone do more than 10 per cent of parents mention agriculture. Taken together, the non-manual occupations (office employee or teacher) and liberal professions are mentioned most frequently in the two urban zones. Once again, the level of aspirations is highly dependent on the parents' level of education.

Table I.11. Puebla : Distribution of parents' occupational aspirations for children enrolled in the fourth and sixth grades of school

Occupational aspirations	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlan*	Indigenous population *Cuetzalan*
Agricultural worker	1.6	8.0	4.3	9.4	17.3
Labourer	2.8	6.3	12.8	11.6	3.0
Merchant	3.9	5.7	8.5	5.1	3.8
Tradesman	8.4	5.7	14.9	14.5	10.6
Domestic employee	12.3	5.7	6.4	11.6	9.6
Office employee	16.2	21.3	24.8	15.9	20.2
Teacher	7.3	13.8	4.3	3.7	7.7
Liberal professions	29.1	13.8	10.6	7.2	3.8
No profession	0.5	0.8	2.8	9.4	9.6
Do not know	17.9	18.9	10.6	11.6	14.4

In the Zhejiang study, the different categories for soliciting information from parents about their aspirations for their children's career were constructed through ethnographic field work prior to the survey. They do not make a distinction between 'educational' and 'occupational' aspirations which, as a matter of fact, reflect the parents' natural concept of what 'career' is about. *Table I.12* reveals the distribution of parents' aspirations for their child's future career.

A number of conclusions can be drawn from *Table I.12*. First of all, about half of the respondents failed to provide an answer. This in itself is interesting. Many parents said they found it difficult to give an answer because they had never thought about the question. Sending children to school seemed to be a natural thing which did not require a rational justification.

Of those who responded, the majority went for 'further study as much as possible' or 'university study'. This seems to reinforce the interpretation that in most parents' minds, schooling was for the sake of schooling. Indeed, when asked about their expectations from primary schooling in general, more than 80 per cent of the respondents opted for purely academic expectations.

Table I.12. Zhejiang: Distribution of parents' aspirations for their child's future career (allowing multiple responses)

	Urban	Industrial rural	Advanced rural	Developing rural	Minority	Overall
Site	*Hangzhou*	*Shaoxing*	*Yuyao*	*Longquan*	*Jingning*	
No response	46.9	55.6	42.6	47.6	51.7	47.5
Further study	7.3	14.4	20.2	31.0	15.0	15.7
University	23.7	5.6	10.9	2.4	8.3	13.3
Cadre	1.0	1.1	1.1	-	-	1.0
Professional	13.4	8.9	4.9	4.8	3.3	8.6
Worker	1.0	1.7	4.9	-	-	1.9
Farmer	-	0.6	1.1	-	-	0.4
Entrepreneur	-	0.6	1.1	-	3.3	0.7
Out of village	-	6.1	6.0	14.3	10.0	4.6
Army	1.9	-	1.6	-	-	1.0
Teacher	1.9	1.1	2.7	-	1.7	2.1
Other	3.4	4.4	2.7	-	6.7	3.3

This is in line with the cultural tradition in China which, as a result of thousands of years of civil examination during Imperial times, based on only the study of the 'four books and five classics', places heavy emphasis on learning for the sake of learning.

In reality, very few students in the rural schools under study ever go to university; even study in secondary technical schools is rare. Yet, parents still took university study or further study as a prime goal of schooling. This was the case for urban as well as rural parents.

Parents who selected a future occupation for their children, opted, in the urban site, mainly for 'professional', and in the rural sites, either for 'professional' or for 'out of village'. The lowest item on the aspiration list was 'professional farmer'. Although in reality most of the children eventually end up involved in agricultural activities, farming is simply not an aspiration, as was also the case in Guinea and Puebla. Schooling a child is, as everywhere, considered a strategy for social mobility; and social mobility in Zhejiang means to leave the village. In the Chinese context, this can be understood very literally: Chinese citizens are classified as 'rural' and 'urban' by way of household registration. Under normal circumstances, conversion from rural to urban registration is almost impossible. However, graduates of universities or secondary technical schools are automatically assigned jobs in the state sector and hence urban registration. In this sense, education is the only route in China to obtain urban status. The unpopularity of joining the cadre is not totally unexpected. This reflects the notion among parents that becoming a cadre does not require special skills and hence it is unsafe when the political climate fluctuates.

A further analysis of the association between parents' aspirations and their educational background revealed that the desire for further studies was strongest among parents who were either illiterate or had no schooling. Parents with the least education (primary school graduation or lower) expressed a strong desire for their children to leave their village. Parents with more education (senior secondary and higher) wanted one of two things for their children: either university studies or to become a professional.

We can compare the answers of parents in Zhejiang with those of the students, who were asked the same question. *Table I.13* shows their answers to be more diversified and in certain respects quite different from those of the parents.

Table I.13. Zhejiang: Distribution of career aspirations as expressed by students

	Urban	Industrial Rural	Advanced Rural	Developing Rural	Minority
Sites	*Hangzhou*	*Shaoxing*	*Yuyao*	*Longquan*	*Jingning*
University study	25.3	16.4	15.7	19.7	16.3
Secondary Technical	4.2	5.5	4.1	2.8	6.4
Cadre	5.8	2.8	4.6	0.7	3.4
Technician	16.4	4.5	4.7	4.2	1.7
Worker	1.2	9.8	12.9	3.5	3.9
Farmer	0.1	1.3	2.9	1.9	4.7
Entrepreneur	4.5	2.6	2.5	2.7	1.3
Leave rural village	0.3	4.0	3.4	1.6	3.9
Join army	7.0	23.0	21.1	28.5	19.7
Teacher	9.3	16.4	16.5	15.3	27.9
Others	25.3	13.7	10.3	15.3	9.8

University study is the first choice only among students in the urban site. In the other sites, students prefer either to join the army or, in the minority site, to become a teacher. This last option is in fact as popular as to go to university in all four rural sites. The students' enthusiasm for joining the army is in contrast with the lack of popularity of this profession among the parents. It may well be a result of the effective political propaganda where the PLA (People's Liberation Army) often plays the hero. The popularity of the teaching profession among young students (again in contrast to the parents' expectations) is probably to be expected because of the usual attraction of this profession for young learners. But it also confirms that overall teachers in China enjoy much respect from their students and from the community at large. Finally, while farming is not popular anywhere, it is remarkable that 'to leave the village' doesn't score as high among pupils as among parents.

IV. Reasons for absenteeism, repetition and drop-out

These are three well-known problems with the functioning of primary schools in developing countries, and they have disastrous consequences for the effectiveness of the system. As part of this project, an attempt was made to understand the factors that explain these three phenomena and what links them together.

(i) Absenteeism

Teachers in Guinea, where learner absenteeism is a serious problem, were asked to state what were, in their opinion, the two main reasons for pupil absences, making a distinction between boys and girls. Their answers are given in *Table I.14*.

One notes that illness is the main reason given in all zones and for both sexes. For the sub-set of boys, we then have lack of support from parents, working for the household, laziness and indiscipline of the pupil, lack of means (that is, lack of food and school supplies), followed by other, very rarely mentioned reasons (namely, distance from school and family problems).

For the sub-set of girls, helping parents is more frequently invoked than for boys, whereas laziness and indiscipline are much less commonly mentioned.

Several differences among zones are also noteworthy: the indiscipline or laziness category appears more often in Conakry, helping parents is more common in the developed and marginal rural zones (especially for girls), while material problems (especially lack of food) seem to be considerably more important in the forested zone.

Table I.14. Guinea: Distribution of teacher opinions as to the reasons for absenteeism of boys and girls

	Urban	Semi-urban	Develop. rural	Semi-dev. rural	Forested rural	Marginal rural	Average of the six zones
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*	
Boys							
Illness	31.7	76.7	56.5	68.4	37.9	44.5	51.4
Lack of support from parents	21.7	6.7	4.3	15.8	24.1	19.4	15.2
Helping parents	10.0	-	34.8	13.2	10.3	19.4	14.3
Pupil laziness or indiscipline	28.3	10.0	4.3	2.6	3.4	13.9	12.4
Lack of means	5.0	3.3	-	-	24.1	-	5.5
Other	3.3	3.3	-	-	-	2.8	1.4
Girls							
Illness	42.6	89.7	39.2	74.9	36.7	41.7	54.1
Lack of support from parents	16.7	6.9	-	5.6	16.7	16.7	10.1
Helping parents	31.5	-	43.5	11.1	16.7	33.3	22.6
Pupil laziness or indiscipline	5.6	-	-	2.8	3.3	2.8	2.9
Lack of means	-	-	4.3	-	20.0	-	4.0
Other	3.7	3.4	13.0	5.6	6.6	5.6	6.3

The same question was put to teachers and to pupils in Puebla, and the results obtained from these two sources are very much in agreement. In the rural and marginal urban zones, the main reason for absenteeism, according to teachers, is work by pupils either at home or outside (see *Table I.15*). As in Guinea, this category is invoked more often for girls than for boys. Health problems and lack of parental responsibility come immediately after. In the urban zone, on the other hand, absenteeism, which is no doubt much less frequent than in rural zones, is attributed in most cases to health problems. As one would have expected, work by urban children is much less frequently invoked, and the same is true of lack of parental responsibility. Data collected directly from pupils confirm the opinions expressed by teachers.

Table I.15. Puebla : Distribution of teacher opinions as to the reasons for absenteeism of boys and girls

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Develop. rural *Zacatlán*	Marginal rural *Ixtacamaxtitlán*	Indigenous population *Cuetzalan*	Average of the five zones
Boys						
Work at home or outside	8.3	44.6	41.4	48.0	28.6	34.1
Health	67.1	24.3	18.6	12.0	26.2	29.6
Lack of parental responsibility	14.8	27.0	25.7	36.0	23.8	25.5
Distance problems	3.3	1.4	1.4	4.0	11.9	4.4
Other	6.5	2.7	12.9	-	9.5	6.3
Girls						
Work at home or outside	12.5	55.9	45.4	56.0	50.0	44.0
Health	70.5	22.1	21.9	8.0	23.5	29.2
Lack of parental responsibility	10.9	19.1	25.0	32.0	17.6	20.9
Distance problems	3.0	1.5	1.5	4.0	8.8	3.8
Other	3.1	1.4	6.2	-	6.1	3.4

The fact that illness seems to be an important cause of school absenteeism in both countries deserves to be stressed. This is certainly an easily invoked reason, but that it is mentioned as much by teachers as by pupils, at least in Puebla, would seem to indicate that there is a real problem of pupil health. The other problem that clearly comes to the fore is that of work by pupils at home and on the outside; in both Guinea and

Puebla it seems to hinder regular school attendance more of girls than of boys.

Finally, the reference by teachers to the lack of a sense of parental responsibility, encountered in all the Guinean zones and especially in the rural zones in Puebla, no doubt reflects actual circumstances. In Puebla, for example, between 10 per cent and 15 per cent of pupils, depending on the zone, state that they sometimes stay away from school simply to be at home or to play with friends. But this reference is also symptomatic of the dearth of regular contacts between parents and teachers in the two countries, which we have already mentioned, and which gives teachers a sense of not being supported by families. In the case of Zhejiang, where, as will be seen, such contacts do exist, learner absenteeism does not seem to be a real problem and is only exceptionally the result of truancy.

(ii) Drop-out and repetition

As indicated previously, in order to better understand the school drop-out phenomenon, the sample of Guinean parents was composed half of parents whose child was in fourth grade at the time of the survey, and half of parents whose child had left school the previous year in Grade III (or in the Grade II or Grade I in the event that there were not enough drop-outs in Grade III). By comparing the two sub-groups one can examine in greater detail the factors influencing drop-out.

The main conclusions to be drawn from this comparison are now summarized. First, girls tend to drop out more than boys. The percentage of girls in the drop-out group is 47 per cent, against 26 per cent in the group of enrolled pupils. The analysis also confirms the relation between drop-out and level of education and/or socio-professional category of the parents (the two being closely linked). For the proportion of fathers who have never been to school is much smaller in the group of enrolled children than in the group of children having dropped out of school. Inversely, the proportion of fathers having reached secondary school level is greater in the group of children still at school.

Turning to school factors, one notes that the number of repetitions plays an important role in the decision to drop out. As shown by *Table I.16*, while a single repetition may have no effect on further studies, multiple repetitions do tend to discourage children and their parents, thereby leading to drop-outs. It must be pointed out here that a repetition during the early years of schooling certainly does not bear the same significance in Guinea as elsewhere. After all, an enormous cultural gap separates the school from the family, inter alia, because the language of instruction (French) is not understood by the vast majority of children.

Hence one can easily imagine that, in the absence of pre-school education, the pupils need some time to become accustomed to this strange institution, whose cultural references are not at all familiar to them. A first repetition under these circumstances may be perceived much more as a normal stage in a difficult process of adaptation than as a sign of academic failure[9].

Table I.16. Guinea: Distribution of children enrolled in Grade IV and of children having dropped out in third grade or earlier

	Urban	Semi-urban	Develop. rural	Semi-dev. rural	Forested rural	Marginal rural
Number of repetitions	*Conakry*	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*
Children still at school						
None	40.7	64.5	46.7	65.0	70	47.1
One	25.8	32.3	40.0	35.0	30.0	52.9
Two or more	33.5	3.2	13.3	-	-	-
Children having dropped out						
None	-	31.8	37.5	41.6	37.5	42.9
One	30.0	40.9	12.5	25.0	62.5	14.2
Two or more	70.0	27.3	50.0	33.3	-	42.9

We also asked parents to indicate why their children left school. *Table I.17* indicates that the most frequently invoked reason is lack of motivation on the part of the pupil. It comes well ahead of all the others, which are, in order, lack of means to finance studies, the need to have the child help out at home (mentioned more often for girls), and health problems.

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[9] For another example (Burundi), where repetition occurring in the last grade of primary education is not necessarily negative, see Schwille, J. *et al.* (1991).

Table I.17. Guinea: Distribution of reasons invoked by parents to explain the dropping out of their child in the third grade or earlier

	Urban	Semi-urban	Devel. rural	Semi-dev. rural	Forested rural	Marginal rural
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*
Lack of motivation	100.0	44.4	50.0	41.7	56.3	80.0
Lack of means	-	29.6	16.7	25.0	18.8	-
Helping parents	-	18.5	-	16.7	12.5	10.0
Health problems	-	-	25.0	8.3	6.2	-
Other reasons	-	7.5	8.3	8.3	6.2	10.0

Setting out the invoked reasons as a function of the child's number of repetitions (see *Table I.18*), one sees clear confirmation of the multiple repetition influence mentioned previously. Lack of motivation is no doubt invoked even for children who have never repeated, but the proportion of this response increases rapidly with the number of repetitions.

Table I.18. Guinea: Distribution of reasons invoked by parents to explain the dropping out of their child in Grade III or earlier as a function of the number of repetitions (N = 86)

	Number of repetitions			
	None	One	Two	Three or more
Lack of motivation	36.8	60.9	81.3	100
Lack of means	26.3	13.1	12.5	-
Helping parents	18.4	13.0	-	-
Health problems	13.2	-	-	-
Other reasons	2.3	-	6.2	-

In our teacher survey we put the same question about the reasons for pupil drop-out (see *Table 1.19*). When comparing teacher opinions with those of parents, one must keep in mind that teachers are referring to drop-outs in general, whereas parents were asked to explain the dropping out of their child before Grade IV.

If one ignores the fact that precocious marriage is invoked most often by teachers as the reason for girls dropping out of school (referring no doubt to pupils in later grades), one sees that teacher opinions generally agree with the reasons given by parents. The three most frequently invoked reasons are lack of parental support, the need to help parents and lack of resources (the need to earn money and high school fees). These reasons are the same as those advanced by parents, except that in the case of teachers, discouragement and lack of motivation are replaced by lack of parental support. As we shall see later, teachers tend largely to shoulder parents with the responsibility for problems due to poor school functioning, and do not seem to have enough perception of the institution's responsibility[10]. The fact that they refer so little to academic failure as a drop-out cause (about 5 per cent of responses) runs along the same lines.

Teachers clearly do not have an acute sense of the role that they themselves could play in improving the quality of education.

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[10] Other studies in Latin America showed similar results. See Avalos, B. ed. (1986). A similar result was obtained in Zimbabwe, for example, where parents and teachers gave the 'lack of interest by pupil' as the main reason for drop-out, while the drop-outs themselves gave reasons which placed the blame on parents or the school (Zimbabwe Ministry of Education) (1986).

Table I.19. Guinea: Distribution of reasons for pupil drop-out invoked by teachers

Reasons invoked	Boys	Girls
Lack of parental support	54.5	31.1
Helping parents	11.3	11.3
Need to earn money	9.5	-
High school fees	3.6	6.8
Academic failure	7.2	5.9
Delinquency	5.0	4.5
Health problem	3.6	1.8
Precocious marriage	-	36.0
Other reasons	5.4	2.7

The same sort of observation was made in Puebla. When asked about drop-outs, teachers generally looked for causes in the pupil's family and social environment. Fewer than 10 per cent mentioned factors related to the school itself. It is of even greater concern that, still in the case of Puebla, the reasoning of teachers is almost the same for repetitions, which constitute a problem much more directly linked with teaching quality (see *Table I.20*). In this case as well, only a small minority (in particular in the urban and marginal rural zones) mention academic failure as one of the main causes of repetition of pupils in their class, although a greater number do feel that the school could contribute to reducing educational retardation (explicitly defined as the combined result of academic failure, repetition and drop-out). It is particularly worrisome that faith in the school's potential to change the situation is much weaker in rural than in urban zones, that is, precisely in those contexts where the school should compensate most for the handicaps of the family environment (see *Table I.21*).

Table I.20. Puebla : Distribution of causes of repetition as advanced by teachers

Category of causes	Urban	Marginal urban	Devel. rural	Marginal rural	Indigenous population
	Puebla	*Libertad Tecola*	*Zacatlán*	*Ixtaca-maxtitlan*	*Cuetzalan*
Family context	45.1	39.2	24.6	20.8	35.9
Child labour	0.7	4.0	1.4	-	-
Social context	0.7	1.4	1.4	-	5.1
Characteristics of the pupil	43.7	52.6	40.7	75.1	35.9
The school possibly combined with other factors	9.8	2.8	31.9	4.1	23.1

Table I.21. Puebla: Distribution of teachers' answers to the question: What can the school do to reduce educational retardation?

	Urban	Marginal rural	Developed rural	Marginal rural	Indigenous population
	Puebla	*Libertad Tecola*	*Zacatlán*	*Ixtaca-maxtitlán*	*Cuetzalan*
Nothing	6.7	4.9	31.6	16.6	12.9
Very little	8.9	12.2	15.8	16.7	25.8
Little	22.2	39.0	10.5	38.9	32.3
A lot	62.2	43.9	42.1	27.8	29.0

Repetition and drop-out are relatively minor problems in Zhejiang. The percentage of repeaters among the sample is 6 per cent or less in all sites, and students who repeat more than once are exceptions. This is not surprising. The issue of school efficiency has recently received much attention. The Province of Zhejiang has a general requirement that repetition rate should not exceed 5 per cent in each year. This policy explains the fact that, among the sample, relatively few students are over-aged: 13.6 per cent at grade 4, 22.0 per cent at grade 6. At primary level, drop-out rates are equally low, at around 3 per cent. Teachers were not asked their opinions about the reasons for drop-outs and/or repetition. However, parents were asked a question regarding the factors they perceived for school failure, the results of which are presented in *Table 1.22*[11].

Like their Guinean counterparts, they put the blame for failure mainly on the students themselves, although in the urban area the responsibility of family and society is deemed more important. The general blame on the student can be related to the traditional belief in effort rather than ability which is common in almost all East-Asian Confucian societies. However, students' efforts can be polluted by society which, as a result of modernization, is believed to distract children from school. This may explain the stress on society in the urban site. In general, trust was placed in schools and teachers[12].

[11] Important drop-outs occur however in the junior secondary schools for economic or academic reasons. The economic reasons include the inability to bear the costs or the attraction of more rewarding economic activities. The academic reason is mainly the inappropriateness of the curriculum. A report produced by the State Education Commission in 1990 implicitly concludes that even at primary level drop-outs are more serious in areas of economic boom where alternative profit-making activities are more easily available. See Cheng Kai-ming (1991).

[12] A useful comparison can be made between the data presented here on Guinea, Mexico, Puebla and China, Zhejiang and those presented by Govinda (1995), on India, which are based on the 1989 national sample survey. The most important reason for drop-out is a 'lack of interest in education', quoted by 30 per cent of respondents in rural areas and 25 per cent in urban. However, the other reasons given are only slightly less important. Three of these are interrelated: 'participation in household economic activities' (18 per cent rural, 14 per cent urban; and quoted mainly for boys),'attending domestic chores' (8 per cent rural, 9 per cent urban; and quoted mainly for girls) and 'other economic reasons' (17 per cent rural, 19 per cent urban). Economic reasons taken together explain about 45 per cent of drop-outs. 'Failure in the school' is mentioned by 17 per cent of rural respondents and 20 per cent of urban, with a slightly higher figure for males than for females. Respondents gave comparable answers when asked to give reasons for non-enrolment. About 30 per cent: 'not interested' (with a higher figure for girls than for boys). Almost 20 per cent: 'participation in household economic activities' and 'attending domestic chores'. Some 27 per cent cited: 'other economic reasons'. 'Schooling facilities not available' is mentioned by 10 per cent in rural and 8 per cent in urban areas. There are, on the whole, fairly few differences between urban and rural areas.

Table I.22. Zhejiang: Distribution of parent-perceived factors for student failure

	Urban	Industrial rural	Advanced rural	Devel. rural	Minority	Overall
Factors	*Hangzhou*	*Shaoxing*	*Yuyao*	*Longquan*	*Jingning*	
No reply	8.0	12.5	25.4	28.6	32.5	16.6
School	5.8	4.2	0.8			4.1
Teacher	8.0	12.5	4.1	7.1	7.5	8.4
Family	31.2	22.5	13.1	21.4	15.0	21.1
Society	28.3	11.7	18.9	14.3	15.0	19.9
Student	18.8	32.5	32.0	28.6	30.0	27.5
Others		4.2	5.7			2.5

V. Conclusions

The investigations in this chapter are based on the realization that, to enrol children in school, it is no longer sufficient just to provide the necessary, that is to say, to construct schools and employ teachers. Recent evidence shows that many parents do not send or do not keep their children in school, even when the school is on their door-step. Parents' willingness and ability to school their sons and, especially, their daughters cannot be taken for granted. Even in countries such as Mexico and China, where in some regions gross enrolment rates at primary level exceed 100 per cent, there remain pockets of low enrolment, characterized sometimes by an apathy if not a resistance to the formal school, and many children leave primary school prematurely.

This chapter has therefore examined several factors which could influence demand for education.

A first possible factor which is often quoted relates to the *lack of faith in school as an instrument of social promotion*. The combined phenomena of graduate unemployment and the booming of the informal sector of the economy, which employs many people without formal qualifications, is supposed to feed these doubts about the value of schooling. In China, for example, the attraction of industrial or commercial activities has been identified as one of the main reasons for drop-outs among children, mainly at junior secondary school level. But on the whole, the present research does not provide evidence to support this common view, on the contrary. In countries as diverse as China, Guinea, and Mexico, parents, at least those who have children in school, have not lost faith in education. School-related factors are seldom mentioned by parents as reasons for drop-out or non-enrolment of children. In Guinea, a good proportion of parents whose children dropped out of school in previous years, are planning to re-enrol them, as soon as possible. This continuing faith in the power of education is of course related to parents' expectations of schooling and to their hopes for their children's future. In each of these three countries, where parents were interviewed on these issues, they wanted their children to continue studying as long as possible, not simply to finish primary school, but, if possible, to undertake university studies. Even in the most remote rural zones, primary school is not perceived as an end in itself, but rather as a first stage in an educational career. Parents' occupational aspirations for their children are, not unexpectedly, as ambitious. Most want their children to become at least middle-level professionals. This implies that most students will leave the villages, and indeed this is the wish of most parents in the rural sites.

All this being said, there exist pronounced differences in aspirations between Chinese, Guinean, and Mexican parents. These aspirations are indeed a function of the country's level of educational and economic development and of its social structure. Most parents are realistic and take into consideration the objective opportunities offered by the school system. This is most visible in Puebla, where these aspirations are more moderate and diversified and where they reflect the degree of development of the various zones. In urban Puebla, some 80 per cent of parents expect their child to go on to post-secondary education, a wish expressed by only 25 per cent of parents in the marginal and indigenous rural zones. Differences between zones are much less obvious in China, and almost absent in Guinea. Indeed, in Guinea, these aspirations more closely reflect the real social promotion opportunities of yesterday than those of today, as parents are unable (or unwilling?) to grasp immediately the implications of the rapid evolution of its school system and society.

The *poor quality of schools* is regularly quoted as another factor which negatively affects the demand for education. And indeed, as we have seen, the poor quality of schools indirectly influences school drop-out because it leads to the discouragement and demotivation of pupils. The fact is, however, that neither parents nor teachers seem to establish this linkage. But, in Guinea and in Puebla most parents seem to be satisfied with the quality of their schools. Families in Guinea are generally satisfied in all the zones, as the contemporary school is close to the traditional academic model (teaching in French, allowance for repetitions and elimination of productive work), which, for historical reasons, enjoys the clear preference of both parents and teachers. In Puebla, the level of family satisfaction with schools is more mitigated; differences among zones do occur, albeit without much dissatisfaction. What can explain this apparent contradiction between schools' poor quality and parents' satisfaction? Three factors can intervene. First, for many parents the village school is one of the few they know and, as such, they cannot compare it to a model school. Researchers obviously do refer to such a norm. Second, parents take the view that the quality of a school is determined mainly by the teachers, and differences among zones in the level of satisfaction, e.g. in Puebla, clearly reflect differences in teaching staff quality. A further chapter will show that teachers in general remain widely respected. A third factor, which partly explains the second, is that contacts, at least in Guinea and Mexico (Puebla), between parents and teachers are rather tenuous. Parents trust the school without really knowing it, especially in rural zones. A non-negligible proportion of them, more so in Guinea than in Puebla, have never even met their child's teacher. In Zhejiang the situation is quite different in the sense that, as will be seen later on, the material and human learning conditions are generally better than in the other countries, contacts between teachers and parents are very close and schools generally achieve good results. The positive opinions of parents about the school quality are therefore no surprise.

This research has also examined *the pupils' home environment.* This factor certainly plays a role in school failure and dropping out of children. But what does it precisely imply? Several elements come to the fore, and for all of these regional disparities do exist. Town centres are systematically advantaged over marginal urban zones and even more so over rural zones. Many pupils in the rural areas live in houses without electricity or running water. Few pupils have their own desk, let alone their own room. Children have little contact with the written word outside of school, due to the paucity of reading materials and to the low level of education of parents. This last element is fundamental. Parents with little formal education on average are poorer, offer their children less opportunity to study, are less able to assist them in school and need them more to help out at home or in the field. Moreover, such parents have generally a more limited knowledge of the language used in the school, which is in many countries different from the one spoken at home. Regional disparities are quite pronounced: in urban Zhejiang, only 1 per cent of parents in the sample are illiterate, compared to 8 per cent of fathers and 26 per cent of mothers in the minority site, and 11 per cent of fathers and 52 per cent of mothers in the advanced rural site. The striking differences between fathers' and mothers' education are found also in the other countries under study. Pupils' living conditions, as they appear from this research, make good interaction between the school, as organized at present, and the family difficult. In any event, the support that teachers can expect from families is limited, particularly in the rural zones.

The data on pupils' living conditions, moreover, highlight two specific factors that make school attendance irregular: the fact, mentioned above, that children have to help with work inside and away from the house; and health problems. In all countries – and in all zones – children are needed at home, for housework, shopping or caring for siblings, and might therefore stay away from school at times. Disparities between zones become particularly visible when children's involvement in production work is examined. In Puebla, children from the least-developed zones, whose learning conditions are the least favourable, are also those most heavily burdened with non-school work. In China, most of the students in the urban site are never engaged in production work, while in all rural areas a large majority does such work, be it to varying extent. Although the research collected few data on children's health, it clearly demonstrated that it is one of the main reasons invoked for absenteeism.

Indeed, the analysis of the phenomena of repetition and drop-out, presented at the end of this chapter, returns to difficult family living conditions, especially in rural zones. In Guinea, the need for children to support their families through their labour, and 'lack of means' are quoted by teachers and parents alike as the second most important reason for drop-out. On the other hand, the first reason is as related to the school itself as to the environment. Lack of motivation and discipline on the part of children is invoked by parents in Guinea and Zhejiang as the main reason for school failure and dropping out, while teachers in Guinea and Puebla refer to the lack of parental support. As mentioned earlier, bad teaching and other school-related factors are rarely mentioned as such by parents or teachers, neither in rural nor in urban zones, but there is little doubt that they play an important role in demotivating students. Two aspects are disquieting here. Firstly, as they function at present, many schools are not capable of stimulating and sustaining the motivation of a considerable proportion of their pupils. Drop-out is caused, at least in part, by factors inherent to school. Thus it was possible to verify that multiple repetitions have a direct influence on the decision to leave school in Guinea. A second cause for concern is that teachers in both Guinea and Mexico seem hardly aware of the school's responsibility for pupil failure and drop-out. They have a natural tendency to blame the pupils and their family environment, and they do not believe very much, at least in Puebla, in the school's ability to change things. This conviction is unfortunately strongest in rural zones, which is where repetitions and drop-outs are most numerous, but exists also in the urban centre.

These research results raise several education policy questions. The fact that parents in all zones keep faith in the value of schooling and that they are on the whole rather positive about the quality of schools, does not imply that education decision-makers can simply shrug their shoulders, hiding behind the claim that school failure and drop-out are social more than educational problems. The research evidence shows, indeed, that there are limits to what schools on their own can achieve, but also points at the responsibility of the school and at the need to adapt its functioning in order to achieve better results. At least four questions could be raised in this respect.

The first is to determine to what extent and how the school could adapt to family living conditions, which vary widely from zone to zone. By way of introduction to this chapter we listed some of the hypotheses that underpin traditional school organization, namely: children are available to attend school regularly, they are in good health, their parents can help them, etc. While it is clear that these hypotheses apply in privileged urban zones, this is not the case in marginal urban zones and especially not in rural zones. Therefore, adapting school practices to the specific living conditions of pupils (for example, adjustments in school hours and calendars, constructing crèches close to schools, opening reading centres at school, etc.) seems indispensable to making schools more effective, which implies putting into question the uniform organizational model that currently prevails.

The second question is even more complex. It is a matter of determining to what extent the school can go beyond mere adaptation, and actively influence certain factors in its environment, such as the level of education of parents (for instance through literacy and post-literacy programmes), or the state of health of children (for instance through school meals and illness-screening programmes). This question is far from new, but it remains relevant. There have been successful attempts in several countries, and one can point here in particular at the creation of student newspapers in China. They exist at different levels of the education system and in urban as well as rural zones. The result is that, much more than in other countries, pupils and parents have the possibility to read, which is of benefit in particular to the otherwise disadvantaged rural families.

However, for most of those innovations, the problem of generalizing them has not been solved and deserves special attention.

Third, parental expectations of their children's educational and occupational career have to be taken into consideration when it comes to determining basic education policies. Parents, in urban as well as rural zones, clearly express the desire for their children to continue studying after they finish primary education and most hope for their son or daughter to find a middle-level professional post, which would take them out of the village. Voluntarist policies that fly in the face of parental demand and aspirations generally yield little fruit, as shown by the massive rejection of the old Guinean reforms and of many ruralization projects conducted in other countries. But this does not mean that policy should simply reflect the demand and be prisoner to parents' expectations, at times, unrealistic. If policies and planning have any meaning, it is precisely in the setting of goals and the formulation of collective projects. The key is to know who defines these projects and how. The urban elite for the rural masses? This is what often happens, without consideration for the needs and aspirations of local communities. Basic educational planners would gain much by listening to communities before acting.

Finally, the need for communication between policy-makers and communities is reflected by a similar need for more communication between schools and teachers and their 'client': parents and students. The analysis of school withdrawals shows that teachers consider lack of parental support to be the main reason for failure at school. These problems cannot be solved if contact between parents and schools is almost non-existent. Such contacts need to be promoted also in order to break the vicious circle whereby the defeatism of certain teachers echoes and sustains the discouragement of some pupils and parents.

Chapter II

The material conditions of education

Out of habit or for convenience sake, when people speak of the school network, they infer that all schools are similar. In reality, a very broad range of situations exists in spite of this apparently uniform concept.

In the first place there is variation in the size of each institution, which constitutes the most distinctive aspect of urban zones versus more or less remote rural zones. It is in the latter that one finds schools with multigrade classes and schools with just one teacher. It is in these small rural schools that teachers are most isolated and often completely ignored by the educational service of which they are the representatives. It is also in these small schools that teachers are expected to apply different pedagogical methods, teachers who are usually rather poorly trained and certainly not ready for teaching under such circumstances, teachers who often are even lacking in professional experience.

There is also much variation in the quality of school infrastructure. There are schools with no building, without drinking water, even without a blackboard. There are schools whose buildings are so dilapidated that they are actually dangerous and should be completely reconstructed. This physical appearance of the school, or its status within the community, is all the more important as it can influence the demand for education for, in the eyes of parents, the school is first and foremost the place where one acquires what is needed for advancement in life.

There is also considerable variation in the equipment given to teachers to do their job. There are schools where the teacher has neither table nor chair, less so a storage cupboard. There are schools without even a map of the country or some basic posters for teaching the sciences.

Finally, there is enormous variation in the conditions offered to pupils so that they can study. It is not unusual for children to sit on the ground because there is no table or bench for them. It is not unusual for children to be so crowded that they can hardly all write at the same time. There are many classes where the pupils do not have access to school textbooks, and where they are without a slate, notebook, or even a pencil.

What is most dramatic is that these factors are often correlated and have a cumulative effect. The abyss between schools with everything and schools with nothing is wide indeed. By way of illustration, an attempt was made, in the case of the State of Madhya Pradesh, to draw up a typology of schools on the basis of various aspects of the material conditions of education. Schools were identified with no infrastructure, with limited infrastructure, with acceptable infrastructure and with satisfactory infrastructure. Beyond the methodological interest of the exercise, in particular as a way of identifying schools requiring urgent action, this classification also brings to light a strong correlation between these four categories of schools and the results of their pupils. As one might expect, the schools with satisfactory infrastructure are to be found mainly in cities, while the schools with limited or no infrastructure are located in rural zones. This reflects not only a disparity in the quality of education, but in fact an inherent inequality between zones where development is already unequal.

I. Variation in school size

The indicators chosen to illustrate the problem of school size are slightly different in the four case studies, but they reflect the same reality. In the State of Puebla, the average number of teachers per school varies greatly as a function of location. Primary education includes six grades and ordinarily a school would have six teachers or more. This is what one actually finds in urban zones, but it is far from being the case in rural zones. Indeed, the average number of teachers per school in Puebla is as follows:

Urban zone	12.4
Marginal urban zone	6.3
Developed rural zone	5.7
Marginal rural zone	2.1
Indigenous population zone	2.1

In the marginal rural and indigenous rural zones, the average number of teachers per school is only 2.1. It is therefore in these two zones that schools with multigrade classes and schools with a single teacher are most common.

The situation in the State of Madhya Pradesh is quite similar (see *Table II.1*). Here there should normally be five teachers per school, since primary education covers five grades. In fact, only the urban zones (Indore and Gwalior) have schools with five teachers or more. Almost all the schools in the rural zones have fewer than five teachers. All the schools in Mandla have only one or two teachers, which means that all the classes are multigrade.

Table II.1. Madhya Pradesh : Distribution of schools by the number of teachers

Number of teachers per school	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
One teacher	-	-	-	8.3	69.2
Two teachers	-	-	27.2	58.3	30.8
Three teachers	-	-	27.2	16.7	-
Four teachers	-	-	27.2	16.7	-
Five teachers	-	16.7	9.1	-	-
More than five teachers	100.0	83.3	9.1	-	-
Total	100.0	100.0	100.0	100.0	100.0

With regard to the Province of Zhejiang, China the number of teachers per school varies from 31 in the urban site to two in the minority site. Multigrade and incomplete schools exist in all of the rural sites. Class and school sizes become smaller the further one is away from the urban centre. This can lead to extreme situations, as the one witnessed by the research team, where in one school there were only six pupils in one class of four grades.

What is remarkable is that there is little difference in the pupil/teacher ratios between sites (see *Table II.2*): they are actually highest in the industrial and advanced rural sites, and not in the urban site, which is better endowed with teachers (an urban school has on average 2.4 teachers per class).

It should be noticed that in general, in China, teachers only teach around 15 hours per week and devote the rest of their time to other activities, including strict formal preparation of their lessons and regular home-visits. This explains why in many sites the teacher/class ratios are well above 1. However, in village schools in rural areas, which often have one small multi-grade class, the teacher is most often responsible for the whole class and teaches all subjects. In these cases, the teacher/class ratio becomes 1.

Table II.2. Zhejiang: Indicators of school size and organization of teaching*

Indicators	Urban *Hangzhou*	Industrial rural *Shaoxing*		Advanced rural *Yuyao*		Developing rural *Longquam*		Minority *Jingning*
		IA	IB	AA	AB	DA	DB	
Teacher/school	30.9	8.4	4.5	6.3	3.5	2.9	2.1	2.0
Teacher/class	2.4	1.6	1.4	1.4	1.3	0.9	1.4	1.0
Class/school	12.8	5.2	3.2	4.6	2.8	3.4	1.5	1.9
Pupil/teacher	18	21	20	21	18	21	14	14
Pupil/class	43	35	27	29	23	18	21	15
Pupil/school	552	180	88	132	64	61	30	28

* The As and Bs represent separate townships selected for the study in the same research site. Since data were collected at township level, aggregates were not available, hence the separation.

In Guinea, as in Madhya Pradesh, it is only in the urban zones that one finds complete schools with six grades (see *Table II.3*). In the capital of Conakry, the average school enrolment is 1,550 pupils and the average number of classes amounts to 23. In Kankan, capital of a department, the average enrolment drops to 434 pupils, but the number of classes is still just over six. In the rural zones, the average number of pupils per school is much lower, ranging from 58 (rural Kankan) to 110 (Labé).

The result is that a high proportion of schools in rural zones have only one or two grades. A complete school with six grades is the exception rather than the rule. In rural Kankan, for example, only one school in 21 includes the six primary education grades.

This problem of incomplete schools is further aggravated in Guinea by the very special way this country seeks to solve the problem of school attendance in sparsely populated zones. When the school-age population is very small and makes it necessary to restrict the school to a single teacher, all children (whose parents agree to have them attend school) of all ages are recruited when the school is opened. Priority is given to the youngest only when the group becomes too large.

The teacher appointed for this purpose is a so-called *attaché*, and he is in fact literally attached to this cohort of pupils, since he follows it into Grade 2 the next year, and so on up to Grade 6, that is, through to the end of primary. It is only in the seventh year that he will be able to take on a new group of children, admitted under the same conditions. In principle, then, admission takes place once every seven years.

This system has at least two disadvantages, the first being that pupils are very heterogeneous in age. This is often to the detriment of girls, who simply end up reaching the age when girls marry, and are never admitted to school.

The second disadvantage is that repetition is not possible, so that children who do not manage to keep up have no other option but to drop out. Despite this, when there are enough children for two or three classes the same system is still applied. For each of these classes, the teacher takes on the same cohort of children for six years and does not move on to new recruits until the seventh year. The net result in rural zones is very irregular admission. Recruitment does take place in certain years, whereas in others there is no recruitment at all.

The size of schools influences their functioning in different ways. The primary impact is on management, but there is also an influence on pedagogical methods and on the composition of the teaching staff. However, the main problem of small schools is that of teacher isolation.

Table II.3. Guinea: Indicators of average size of schools

	Urban	Semi-urban	Devel. rural	Semi-dev. rural	Forested rural	Marginal rural
Indicators	*Conakry*	*Urban Kankan*	*Kindia*	*Rural Kankan*	*Nzérékoré*	*Labé*
Average school enrolment	1 549.9	433.5	75.9	58.0	90.5	109.5
Average number of classes per school	22.7	6.6	2.5	2.0	2.5	2.6
Average size of classes	68.2	65.4	30.4	28.3	36.2	42.1

In large cities such as Conakry, many schools have an enrolment of more than 2,000 pupils. This naturally gives rise to difficult management and discipline problems. In rural zones the opposite holds true: because the schools are small, headteachers are not discharged from classroom duties. They have to look after management while simultaneously taking care of their own pupils. Yet the role of headteacher as stimulator is essential, as will be seen later on when comparing differences between high- and low-performance schools.

As a general rule, and this is the case in Madhya Pradesh, Zhejiang and Puebla, when the number of children is not sufficient, the answer is to set up multigrade classes. The same teacher may then have up to five or six different grades. This system may function very well as such, and in certain countries it has permitted the extension of compulsory education to even the most remote regions[1]. Unfortunately, a special pedagogical approach is required, and in the schools studied, the teachers have rarely received this type of training, so they do not always manage to handle this kind of situation. Things are aggravated further still by the fact that it is precisely in rural zones, where this type of class exists, that teachers are lacking in professional experience.

II. Variation in the quality of school infrastructure

The image that a school projects is also dependent on the quality of its infrastructure, or the quality of its physical attractiveness. Now this quality varies enormously by country and by zone. It is the condition of the structures that really counts, more than the building materials. Unfortunately, there are both schools with no building and schools in an advanced state of dilapidation. A school should also offer children some minimal level of comfort: a playground, drinking water, decent sanitation. This absolute minimum is something that many schools do not offer.

Important disparities in the quality of school infrastructure were found in all the four countries but no doubt they were greatest in Madhya Pradesh (see *Table II.4*).

In the indigenous rural zone, three quarters of the schools have no building, and in the one school where there is a building and more than one classroom, there is no partition to separate classrooms. This problem of unseparated classrooms is quite common in rural zones, and even rather frequent in the semi-urban zone.

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[1] For more details on the functioning of multi-level classes and single-teacher schools, see *inter alia* Bray, M. (1987), and Little, A. (1995).

Table II.4. Madhya Pradesh: Breakdown of schools by nature of school buildings

	Urban	Semi-urban	Developed rural	Marginal rural	Indigenous rural
	Indore	*Gwalior*	*Rajnandgaon*	*Rewa*	*Mandla*
No building	0.0	0.0	0.0	8.0	75.0
Without separate classroom (*)	9.1	41.7	81.8	90.9	100.0

* Excluding schools with no building and schools with a single classroom.

The situation in Zhejiang is rather particular and therefore requires special mention. There are four types of primary school: *experimental* schools, centres of excellence, where the most advanced innovations in teaching and learning are tested; they usually attract the better students or students from better-off family backgrounds. *Complete* schools have all classes from primary 1 to primary 6, compared to *village* schools, which may or may not have all grades, and are much less well-equipped than complete schools. In areas where the population is sparse, there are often *extensions* or *teaching sites* which comprise only a small number of classes. They usually operate under the supervision of village schools. Village schools, in turn, often form a cluster within a township where one of them becomes a *centre* school. A centre school is usually a complete school.

Resources in China are normally allocated according to a rank order so that some schools receive more resources than others. The rank order in primary schools is usually as follows: (i) experimental school; (ii) centre school/complete school; (iii) village school; (iv) teaching sites.

Experimental schools, therefore, will be allocated more resources than centre schools and village schools will receive minimal support; teaching sites usually receive almost no allocation from the province and will rely fully on local funds. This concept of resource allocation may seem surprising but is in line with the hierarchical configuration of Chinese society.

(i) Building materials

In three of the four case studies: Guinea, Mexico (the State of Puebla), and China (Province of Zhejiang), information on building materials was collected. These obviously vary from zone to zone, and this variation is the result of different factors.

In the urban zones of Guinea, the construction of school buildings is the responsibility of the state or of public authorities. In rural zones, on the other hand, such construction is possible only with contributions from pupils' parents, which can take the form of a gift of land, the provision of building materials, or voluntary labour. Such parental participation, necessary because the State cannot meet its obligations, is a relatively recent phenomenon, whose scope also varies according to the zone and the strength of parental demand.

Given the different origins of these structures, in the urban zones one mainly finds solid or semi-solid buildings, while the schools built by parents in the rural zones are generally made of straw brick ('banco') (see *Table II.5*). The proportion of classrooms made of straw brick will depend on their date of construction and on the relative dynamism of the community, and especially that of pupils' parents. This is probably what explains the predominance of solid and semi-solid construction in the marginal rural zone, and the predominance of straw brick in the forested rural zone.

The quality of school infrastructures seems to be better in the State of Puebla, but one notes the same difference between rural and urban zones (see *Table II.6*). Concrete or brick walls, concrete or tile roofs and wooden or concrete floors tend to be city privileges. In the country, it is not uncommon to see adobe or other walls, asbestos cement roofs and mud floors, particularly in the indigenous rural zone.

In Zhejiang, as in the rest of China, school buildings are a 'must'. One would seldom find Chinese schools in make-shift shelters or other substitutes. Occasionally, schools make use of part of the 'ancestor courts' (where people worship their ancestors), but this has become extremely rare. There was a spectacular campaign to rebuild dilapidated schools and to build new schools in the mid- and late-1980s, mostly with community donations. It is therefore common to see schools stand out as the best buildings in the vicinity, although in unfavourable environments one may still find some schools operating in small rooms.

Table II.5. Guinea: Materials used to build classrooms as a function of location

	Urban *Conakry*	Semi-urban *Urban Kankan*	Devel. rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Nzérékoré*	Marginal rural *Rural Labé*
Straw brick	-	8.8	20.9	41.7	80.6	-
Semi-solid	2.9	-	9.3	47.9	7.5	9.3
Solid	97.1	91.3	69.8	10.4	11.9	89.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Table II.6. Puebla: Distribution of schools by materials used for building

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Walls					
Concrete or brick	100.0	100.0	64.3	58.3	75.0
Adobe	-	-	28.6	25.0	-
Other	-	-	7.1	6.7	25.0
Roof					
Concrete or tile	100.0	87.5	71.4	16.7	12.5
Asbestos cement	-	6.3	14.3	58.3	56.3
Other	-	6.3	14.3	25.0	31.2
Floor					
Wood	57.1	37.5	7.1	8.3	-
Cement	42.9	62.5	92.9	91.7	62.5
Mud	-	-	-	-	37.5

(ii) Condition of the facilities

The fact that the construction is solid does not mean that the facilities are in the best of conditions, it all depends on the building's date of construction and especially on how well it has been maintained. Taking Guinea as an example, in urban Kankan, even though virtually all the classrooms are solid, nine out of ten of them need to be rebuilt or require major renovations (see *Table II.7*). The situation in Conakry is slightly better, but even here, four classrooms in ten require such work. Conditions are the same in the marginal rural area. In fact, whatever the location, the proportion of classrooms assessed as being in good condition is extremely low, even in some recently built schools. There is no doubt that school maintenance has suffered terribly from the pervasive crisis. The case of Guinea is one example, but the situation is little better in other countries.

Table II.7. Guinea: Distribution of classrooms in terms of how they are maintained

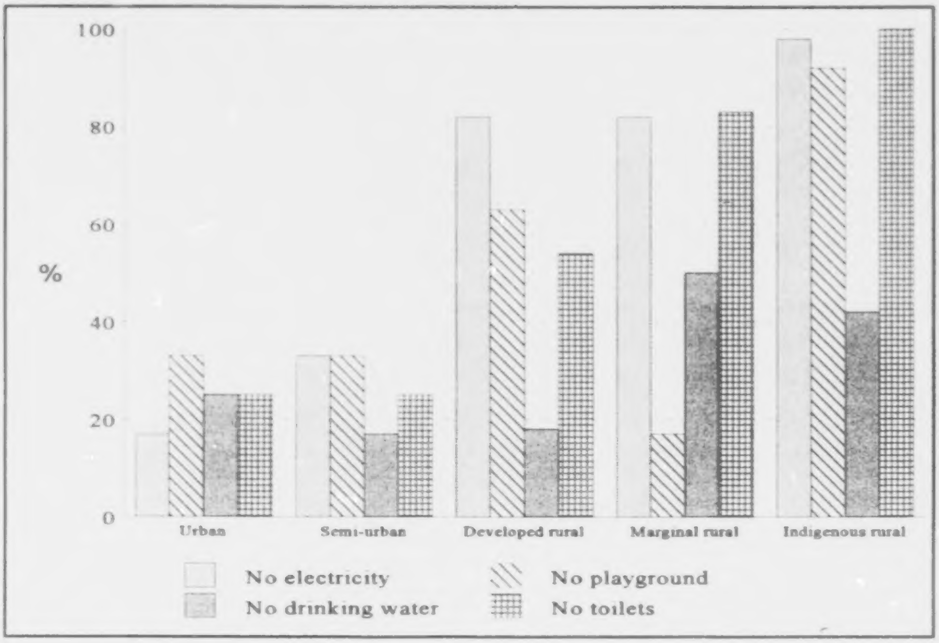
	Urban *Conakry*	Semi-urban *Urban Kankan*	Devel. rural *Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Nzérékoré*	Marginal rural *Rural Labé*
Reconstruction required	12.7	8.8	16.3	31.8	30.2	6.4
Major renovation required	28.5	81.3	32.5	31.8	25.4	36.2
Sub-total	41.2	90.1	48.8	63.6	55.6	42.6
Minor repair required	46.8	6.2	51.2	20.5	41.2	42.6
Good condition	12.0	3.7	-	15.9	3.2	14.8
Sub-total	58.8	9.9	51.2	36.4	44.4	57.4

(iii) *Minimal comfort of pupils*

Where do schools stand in so far as the minimal comfort of pupils is concerned? The data from the study of Madhya Pradesh point to a considerable gap between urban and rural zones. Even in the urban zones, a substantial proportion of schools do not provide pupils with drinking water or a toilet.

The same disparities between urban and rural zones are to be found in Guinea. Electricity and running water are the reserve of the capital city. Playgrounds are rare in cities, but they are not always available in the countryside. Sanitary facilities essentially exist only in cities, as shown in *Figure II.1(a) and (b)*.

a) Madhya Pradesh



b) Guinea

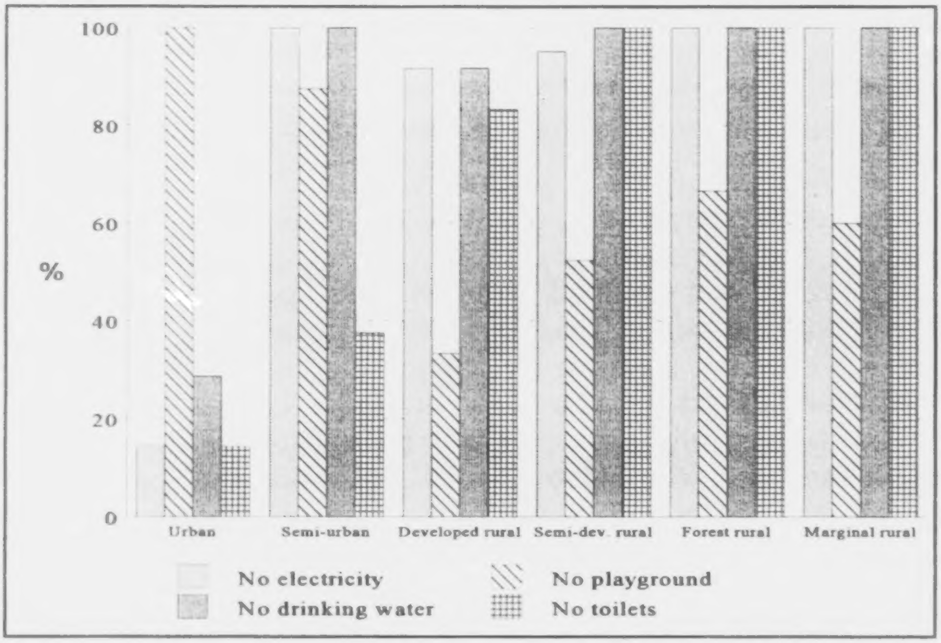


Figure II.1(a)(b). Madhya Pradesh and Guinea: Percentage of schools that do not have certain basic facilities

The situation is not very different in Puebla, where in particular the indigenous population and to a lesser extent the marginal rural site, faces severe paucity of school infrastructure. Best off is the urban middle-class site (see *Table II.8*).

Table II.8 Puebla: Percentage of schools which are supplied with specific services

Service	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtacamaxtitlán*	Indigenous population *Cuetzalan*
Piped water	81.3	50.0	60.0	7.1	37.5
Electricity	87.5	87.5	86.7	57.1	37.5
Latrines	87.5	87.5	93.3	78.6	31.3
Sports facilities	75.0	37.5	40.0	42.9	50.0
Office	37.5	43.8	46.7	14.3	12.5
Patio	87.5	75.0	86.7	71.4	25.0
Auditorium	37.5	12.5	26.7	0.0	12.5
House for teacher	43.8	37.5	26.7	78.6	6.3

Some other aspects of pupils' comfort are highlighted by the Zhejiang case study, regarding ventilation and the availability of artificial lighting. Sixty-six classrooms (93 per cent) were judged by the field researchers as 'well ventilated'. The other five classrooms (7 per cent) were classified as 'stuffy'. Breakdown shows that the stuffy classrooms were concentrated in two sites: the industrial rural and the advanced rural sites. *Table II.9* shows how many classrooms in each site had the required form of lighting and how many had no artificial lighting at all. The urban site is clearly the best off: all schools conform to the requirements. In three of the four rural sites, not one school can claim this. About one third of schools in these sites do not have any artificial lighting at all.

108

Table II.9. Zhejiang: Number of classrooms observed that have the required form of lighting and that have artificial lighting

	Urban *Hangzhou*	Industrial Rural *Shaoxing*	Advanced Rural *Yuyao*	Developing Rural *Longquan*	Minority *Jingning*
Total observed	20	18	16	10	7
Conform with requirement	20	0	8	0	0
Without artificial lighting	0	6	1	4	2

Many schools in Zhejiang, as in Guinea and Madhya Pradesh, do not have running water. This was the case for 14 out of 24 observed schools. Twenty-two schools, however, provided boiled water to teachers, 11 to students. A majority of schools had canteens. Fourteen provided lunch to teachers, 11 to students.

III. Variation in the educational means made available to teachers

What means do teachers have to carry out their jobs? What is the collective equipment that they can use in their classes? Do they regularly receive updated guides or pedagogical documentation to help them prepare their courses? As will be seen later on, the availability of such means, and more generally the material conditions under which teachers work, have a significant influence on their motivation.

(i) Collective equipment in the classroom

The situation seems to be most difficult in Madhya Pradesh (see *Table II.10*). Despite the well-known Operation Blackboard, launched by the government of the Union in 1987, it is only in the city of Indore that almost all schools have blackboards. Elsewhere, the proportion of schools with blackboards plummets from 58 per cent in the semi-urban zone to 0 per cent in the indigenous zone.

Table II.10. Madhya Pradesh: Percentage of schools which have specific equipment items for teachers

	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Blackboard	92.0	58.0	46.0	17.0	0.0
Chair for the teacher	100.0	58.4	90.1	50.0	0.0

One finds a slightly different situation in Guinea, where there is a blackboard in almost all classrooms (see *Table II.11*). In reality, however, this blackboard is a rectangle on the wall, more or less smooth and painted black. All too often, whatever is written on the 'blackboard' is practically illegible, due to peeling paint.

Table II.11. Guinea: Percentage of teachers who have specific equipment items at their disposal

	Urban *Conakry*	Semi-urban *Urban Kankan*	Devel. rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Nzérékoré*	Marginal rural *Rural Labé*
Blackboard	100.0	100.0	100.0	76.6	100.0	100.0
Chalk	100.0	100.0	100.0	96.6	100.0	97.6
Desk	40.6	20.0	52.4	56.6	40.6	76.7
Chair	37.5	20.0	64.3	53.0	37.5	74.4
Storage cupboard	15.6	20.0	35.5	20.0	15.6	20.9
Geography map	21.8	20.0	26.1	24.1	21.8	2.3
Science poster	21.8	20.0	26.1	16.6	21.8	20.9

For the teacher to have a desk or a chair is by no means the norm everywhere and, surprisingly, even less so in the urban than in the rural zones. Naturally, very few teachers have maps to teach geography or illustrated posters for the sciences.

Conditions seem to be more favourable in the State of Puebla, especially in the urban centre (see *Table II.12*). Worst off are the marginal urban and indigenous sites.

Table II.12. Puebla: Percentage of teachers who have specific equipment items at their disposal

	Urban	Marginal urban	Developed rural	Marginal rural	Indigenous population
	Puebla	*Libertad Tecola*	*Zacatlán*	*Ixtaca-maxtitlán*	*Cuetzalan*
Blackboard	97.2	81.9	98.6	96.2	97.7
Geography map	85.3	40.4	63.9	57.7	31.8
Science posters	65.0	30.9	43.1	26.9	11.4

In Zhejiang, all classrooms have a blackboard; in almost half, however, they are relatively old. The quality of blackboards varies. They range from fibre glass to a piece of darkened wood. The vast majority of all classrooms (73 per cent) were equipped with a teacher's desk. Among the 71 classrooms observed, only 10 classrooms, which were in the urban site and the advanced rural site, ever had a bookshelf or bookcase. No classroom had an equipment cupboard and only 20 had any cupboard at all. Once again these were mainly in the urban site. Blackboard bulletins, which are a form of newspaper, in chalk, often written and edited by students, exist in more than half of all classrooms, but mainly in the urban site. Wall charts were fairly rare everywhere, with the exception of the minority site.

(ii) Pedagogical guides and documentation

In this area of pedagogical guides and documentation, the situation in Puebla was found to be rather favourable (see *Table II.13*). With the exception of the indigenous population zone, where pedagogical guides were received by only half the schools, guides were distributed in a relatively satisfactory manner. Inevitably, there were some delays, notably in the marginal rural zone, the guides sometimes arrived in poor condition (again in the marginal rural zone), they were not always the most recent edition, but in almost all the zones it can be said that a more or less sufficient number of pedagogical guides actually reached the schools.

Table II.13. Puebla: Percentage of schools which did receive pedagogical guides for teachers on time, in good condition, etc.

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtacamaxtitlán*	Indigenous population *Cuetzalan*
Reached the school	76.9	100.0	100.0	84.6	50.0
On time	76.9	60.0	75.0	15.4	50.0
In good condition	76.9	80.0	91.7	69.2	50.0
Last edition	61.5	80.0	83.3	53.8	33.3
In sufficient numbers	76.9	80.0	83.3	76.9	58.3

In Zhejiang, the overall situation was average. Sixty-nine per cent of all teachers felt that the quantity of teachers' books was 'generally adequate'; 28 per cent felt that it was 'inadequate'. The general practice is to give each teacher a textbook and a standard teacher's reference book. Apart from these, other guidebooks are rare. Hence, on the one hand, the general situation is one of meeting the very basic requirements; on the other hand, there is little beyond these basics. As regards the utilization of these books, 85 per cent used them 'frequently' while 15 per cent referred to them 'occasionally'.

Comparable information is available on teacher aids. Some 49 per cent felt that the teaching accessories and equipment were 'generally adequate' in terms of quantity; but almost as many, 45 per cent, felt them to be 'inadequate'. Meanwhile, 61 per cent of the teachers said these aids and equipment were 'frequently' utilized, while 37 per cent said they were used only 'occasionally'.

The situation in regard to teacher guides is worse in Guinea, where more than one third of teachers consider that the lack of a pedagogical guide constitutes their major problem. It is not surprising, then, that among their suggestions for improving the quality of education the sending of pedagogical documents is very much at the top of the list, even ahead of training or refresher courses, as will be seen in *Chapter IV*.

In Madhya Pradesh, the situation is even more dramatic: only 10 of the 111 teachers in the sample possessed a teacher's guide. In most cases, this guide was out of date and not adapted to the presently used textbooks, as the Madhya Pradesh authorities have not produced any teachers' guide in recent years.

IV. Variations in the conditions of comfort offered to pupils for studying

It is in the classroom that pupils spend the greatest part of their day. Under what conditions of comfort are they received? The state of the infrastructure has already been noted. Apart from that, are they at ease? Do they have the space they need? A first approach is to estimate the average surface area per pupil.

(i) Surface area per pupil

In Guinea, as a rule, classrooms are more spacious in the urban than in the rural zones, but there is a lot of size variation everywhere, and there really is no standard size as such (see *Table II.14*). While classrooms are more spacious in urban zones, the surface area per pupil is in fact much smaller, because virtually all classes in cities are over-enrolled.

Table II.14. Guinea: Average classroom size and surface area per pupil (teacher questionnaire)

	Urban	Semi-urban	Dev. rural	Semi-dev. rural	Forested rural	Marginal rural
	Conakry	*Urban Kankan*	*Kindia*	*Rural Kankan*	*Nzérékoré*	*Rural Labé*
Average classroom surface area	61.5	62.5	42.0	44.6	52.1	50.4
Standard deviation	22.2	17.6	12.6	18.4	15.6	17.7
Square metres per pupil	0.91	0.88	1.10	1.39	1.28	1.20

Average surface area per pupil, however, is not always a very reliable indicator of pupil comfort. What matters is not only the classroom dimensions, but also how the space is utilized and what furniture is available. Therefore, teachers were asked whether their pupils were very crowded or at ease. While the answers do not contradict what has just been seen, they do bring in a few nuances (see *Table II.15*). While urban pupils are generally very crowded or crowded in their classrooms, there are nevertheless some schools in Conakry where children are relatively at ease. In the rural zones, even though a high proportion of children have more space, in a not insignificant number of schools, they can also be crowded or very crowded. This is particularly true of the forested rural zone.

Table II.15. Guinea: Distribution of classes according to the comfort of pupils (teacher questionnaire)

	Urban	Semi-urban	Devel. rural	Semi-dev. rural	Forested rural	Marginal rural
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Nzérékoré*	*Rural Labé*
Very crowded	34.3	20.0	30.9	16.7	22.0	16.7
Crowded	40.6	80.0	28.6	40.0	42.6	40.0
At ease	28.1	-	40.5	43.3	35.4	43.3

The situation seems to be comparatively better in the State of Puebla (see *Table II.16*) and in Zhejiang. In Puebla, the proportion of classes where the pupils are 'very crowded' is relatively low, except in the marginal urban zone. In Zhejiang, 82 per cent of the classrooms were seen as 'spacious', 15 per cent as 'fairly crowded', and none as 'very crowded'. There was no significant pattern between sites: there were 'spacious' and 'crowded' classrooms in both urban and rural schools, and the crowding varied from class to class. No such information was available on Madhya Pradesh.

Table II.16. Puebla: Distribution of classes according to the comfort of pupils (teacher questionnaire)

	Urban	Marginal urban	Developed rural	Marginal rural	Indigenous population
	Puebla	*Libertad Tecola*	*Zacatlán*	*Ixtacamaxtitlán*	*Cuetzalan*
Very crowded	7.1	22.1	9.9	0.0	2.3
Crowded	11.8	35.1	31.0	20.0	46.5
At ease	81.2	42.9	59.2	80.0	51.2

(ii) Furniture for the pupils

What kind of furniture do the pupils have in the classroom? It is in Madhya Pradesh that the situation seems to be most unfavourable in this respect. Only 13.5 per cent of the schools in the sample have tables for the pupils, and 11.9 per cent have benches. The children are generally seated on mats on the floor. This corresponds to the traditional way of sitting, and it must be the way people sit in many homes of the surrounding community. Nevertheless, this does not make it particularly easy to write.

At first sight, the conditions seem to be better in Guinea, where, whatever the location, 80 per cent of classrooms are equipped with table-benches for pupils (see *Table II.17*).

Table II.17. Guinea: Distribution of classes according to the availability of table-benches for pupils (teacher questionnaire)

	Urban	Semi-urban	Devel. rural	Semi-dev. rural	Forested rural	Marginal rural
	Conakry	*Urban Kankan*	*Kindia*	*Rural Kankan*	*Nzérékoré*	*Rural Labé*
All pupils	90.6	100.0	78.0	90.0	83.8	88.4
Some pupils	9.4	-	12.2	10.0	11.8	11.6
No pupils	-	-	9.8	-	4.4	-

In reality, however, these table-benches are provided by the parents; they are home-made and not standardized. Moreover, the teachers claim that their condition leaves a lot to be desired, especially in the urban zones (see *Table II.18*).

From the point of view of school furniture availability, the situation is quite similar in the State of Puebla (see *Table II.19*).

Table II.18. Guinea: Distribution of classrooms according to the condition of table-benches (teacher questionnaire)

Condition of table-benches	Urban *Conakry*	Semi-urban *Urban Kankan*	Devel. rural *Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Nzérékoré*	Marginal rural *Rural Labé*
Very poor	20.4	33.0	1.9	11.9	3.7	9.5
Poor	26.4	35.4	19.8	18.7	18.7	5.9
Fair	49.1	29.7	78.2	69.3	68.6	71.8
Good	4.1	1.9	-	-	9.0	12.8

Table II.19. Puebla: Distribution of classrooms according to the availability of furniture for pupils (teacher questionnaire)

Percentage of pupils with furniture	Urban *Puebla*	Marginal urban *Libertad Tecola*	Devel. rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Less than 80 per cent	5.0	18.8	6.0	0.0	17.1
From 80 to 90 per cent	0.6	2.9	6.0	0.0	0.0
More than 90 per cent	94.4	78.3	88.0	100.0	82.9

In most classrooms more than 90 per cent have the furniture they need. The marginal urban and indigenous population zones once again constitute the exceptions. In general, the condition of the furniture is either acceptable or satisfactory, except, yet again, in the marginal urban and indigenous population zones (see *Table II.20*).

Table II.20. Puebla: Distribution of classrooms according to the condition of furniture for pupils (teacher questionnaire)

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Very poor	7.6	20.8	4.2	8.0	9.3
Poor	5.8	19.5	5.6	4.0	27.9
Acceptable	33.7	36.4	60.6	76.0	58.1
Satisfactory	52.9	23.4	29.6	12.0	4.7

The situation is probably best in Zhejiang, where all students in the sample have desks and chairs. Among the classrooms observed, 41 per cent possess desks and chairs which are basically new; approximately 45 per cent have a combination of old and new student furniture; the rest have either broken and damaged or unmatching desks and chairs. The minority site and in particular the industrial rural site are the worst off.

(iii) Textbooks for pupils

To what extent do pupils have the textbooks and school supplies they need to work effectively? The situation is rather dramatic in Guinea, as shown in *Figure II.2*. Even though, in principle, textbooks are supposed to be provided by the government, the percentage of pupils who actually have them, whether for French or for mathematics, is very low, especially in the rural zones. In Labé, for example, only 10.7 per cent of pupils have the mathematics textbook and 16.9 per cent the French textbook.

The situation in Madhya Pradesh is rather special in that, whatever the zone, there is a significant difference between Grades 4 and 5 pupils, as can be seen in *Figure II.3*.

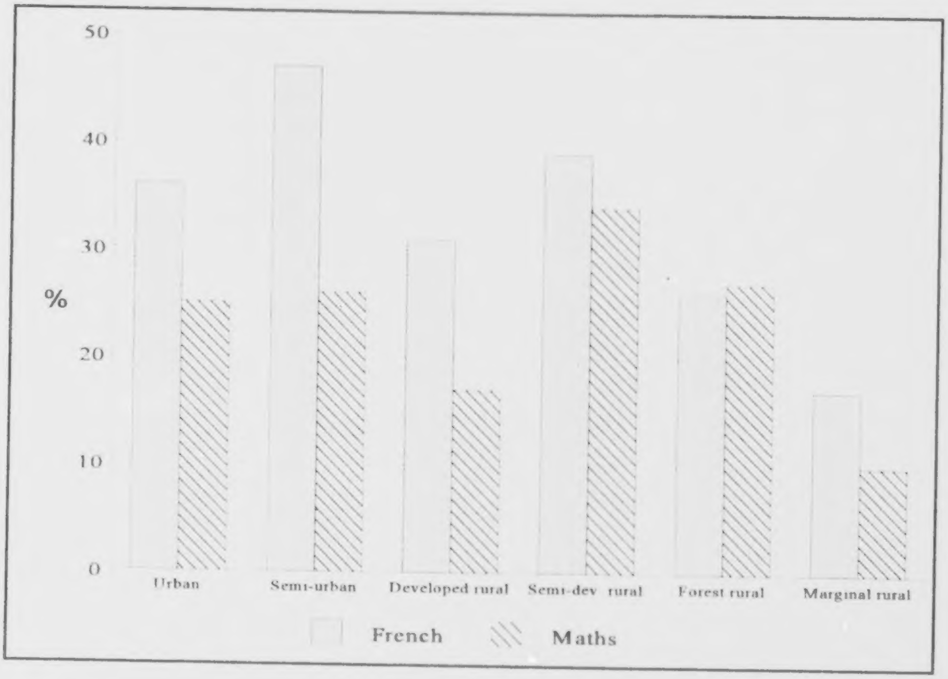
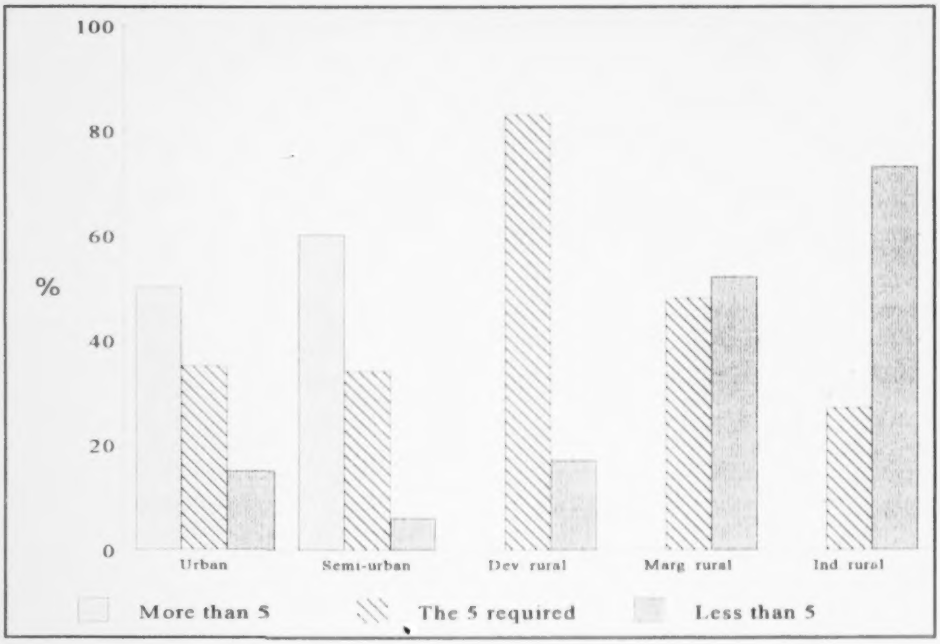


Figure II.2. Guinea: Percentage of learners who have the French and mathematics textbooks

In India's primary education system, children are supposed to have five textbooks, corresponding to the five main subjects. Who are the pupils that have these five books? In the urban and semi-urban zones, even in Grade IV, more than half the pupils have more than the five required textbooks. This is true of virtually all pupils in private education. The proportion of pupils in these same two zones with fewer than the five basic textbooks is relatively small. In the rural zones, however, the latter proportion increases rapidly from 15.7 per cent in the developed rural zone to 72.7 per cent in the indigenous rural zone.

In Grade V, however, things improve quite substantially. Even in the rural zones, pupils who do not have the five required books constitute a small minority, ranging from 7.5 per cent in the developed rural zone to 18.5 per cent in the marginal rural zone. This improvement from the fourth to the fifth grade is in fact part of a general trend. The in-depth interviews with teachers reveal that low-income parents hesitate to buy textbooks for their children until their success at school has been confirmed.

a) **Grade IV**



b) **Grade V**

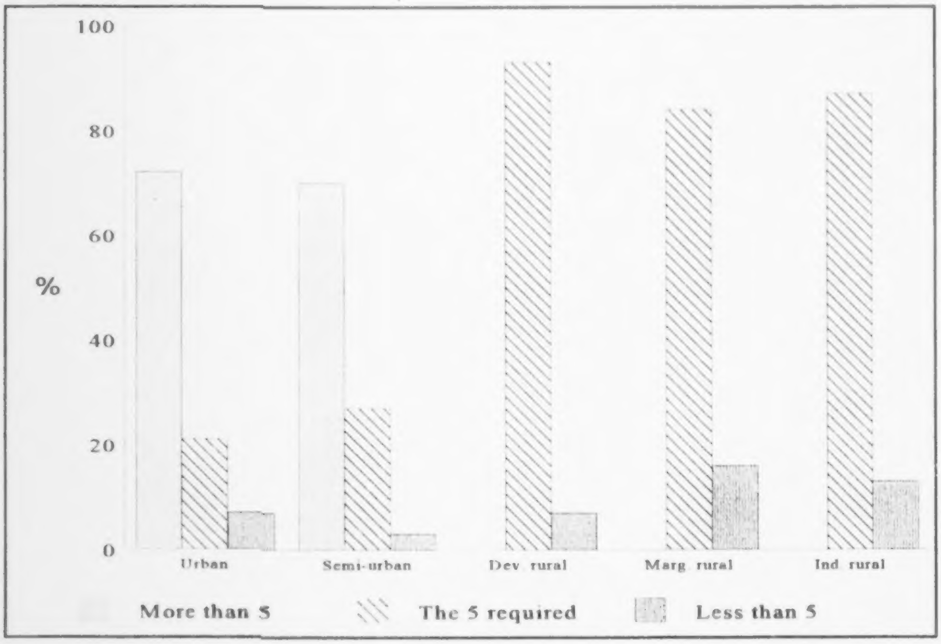


Figure II.3. Madhya Pradesh: Distribution of learners by the availability of school textbooks (Grades IV and V)

In the government schools, in fact, very few first and second grade pupils have the required textbooks, but this number grows rapidly as one goes up the school pyramid.

In Puebla the textbook situation is better. Here the textbooks are produced centrally by the Ministry of Education and distributed to pupils free of charge. According to headteachers (see *Table II.21*), textbooks do in fact reach most schools in good condition, whatever the zone, even if they are sometimes delivered late, as in the case of the marginal rural zone. Whatever the zone, virtually all pupils have the required textbooks for all the main primary education subjects, as indicated by *Figure II.4.*

The situation seems again best in Zhejiang, at least in so far as concerns the availability of textbooks. Nearly all of the teachers (98 per cent) perceived the quantity of students' textbooks as 'adequate' or 'generally adequate'. Ninety-six per cent of teachers said that the student textbooks were 'frequently' utilized. Teachers, however, were not totally satisfied with their quality: 55 per cent regarded the textbooks as 'barely acceptable', although 42 per cent felt that the quality was satisfactory. The responses about student textbooks reflect Chinese (or East Asian) culture. In the Chinese language and conception, *education* is often taken as synonymous with *schooling* which is in turn synonymous with *reading books* (*nianshu* or *dushu*). Hence, it is inconceivable that pupils could attend school without textbooks. This explains why in China student textbooks are guaranteed by the government's priority policies of printing and transportation.

Table II.21. Puebla: Percentage of schools which received textbooks, on time, in good condition

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtacamaxtitlán*	Indigenous population *Cuetzalan*
Reached the school	92.3	83.3	92.3	100.0	87.5
On time	86.7	68.8	92.3	22.2	80.0
In good condition	100.0	81.8	83.3	100.0	84.6

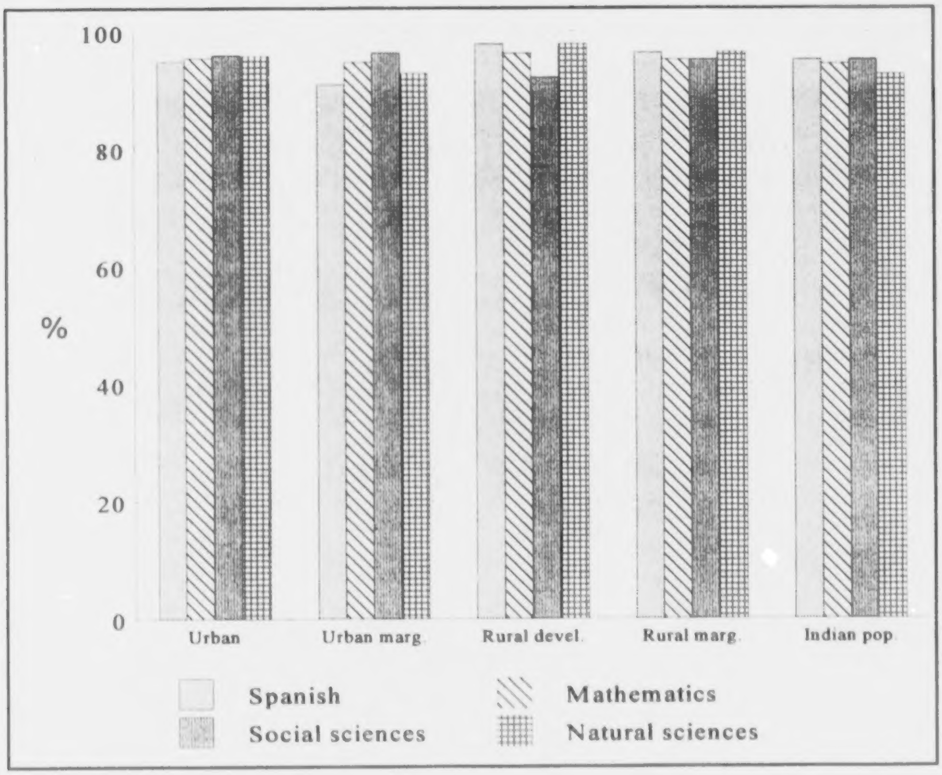


Figure II.4. Puebla: Percentage of pupils who have the required textbooks

Recently, problems regarding textbooks have been arising because of the withdrawal of the heavy subsidy by the government and the parents' inability to pay. However, this did not seem to be a problem at the time of the study in Zhejiang. Some information from teachers was also gathered on student exercise books and stationery. Almost all teachers perceived their quantity to be adequate. Almost two thirds, however, thought the quality of these items to be barely acceptable. While, in relation to exercise books, there were no clear differences between sites, in the case of stationery, teachers in the industrial rural site and the minority site were most unhappy.

V. Typology of the schools

To what extent do the disparities in teaching conditions analyzed above influence learning? Starting with the availability of basic equipment, the case study of the State of Madhya Pradesh tried to establish a typology of primary school infrastructures in order to facilitate the analysis of this influence. Fifteen categories of equipment were first identified. They are ranked below by their frequency of availability in the schools. Very few schools have a television or a telephone, but it should be noted that even benches and desks for pupils are not available in most schools.

1.	School building	49/59
2.	Water supply	41/59
3.	Teacher's chair	35/59
4.	Playground	35/59
5.	School office	28/59
6.	Toilet	25/59
7.	Blackboard	25/59
8.	Separate classroom	21/59
9.	Electricity	20/59
10.	Fan	14/59
11.	School library	10/59
12.	Pupil desk	8/59
13.	Telephone	8/59
14.	Pupil bench	8/59
15.	Television	4/59

Figure II.5 summarizes the disparities among schools in a spectacular way. Only one school in the sample of 59 has all fifteen categories of equipment. Four schools have none.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
511	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	15
402	*	*	*	*	*	*	*	*	*	*	*	*	*	*		14
510	*	*	*	*	*	*	*	*	*	*	*	*	*	*		14
410	*	*	*	*	*	*	*	*	*	*	*	*	*	*		13
501	*	*	*	*	*	*	*	*	*	*	*	*	*	*		13
403	*	*	*	*	*	*		*	*	*	*	*	*			12
506	*	*	*	*	*	*	*	*	*	*		*	*			12
302	*	*	*	*	*	*	*	*	*	*						10
507	*	*		*	*	*	*	*	*	*	*			*		11
509	*	*		*	*	*	*	*	*	*	*	*		*		11
512	*	*		*	*	*	*	*	*	*	*			*		11
411	*	*		*	*	*	*	*	*	*	*					10
205	*	*		*	*	*	*	*	*	*						9
404	*	*		*	*	*	*	*	*	*						9
508	*	*		*	*	*	*	*	*	*	*					9
409	*	*		*		*		*	*	*	*	*				8
504	*	*			*		*	*	*	*						8
303	*	*		*	*	*		*	*						*	7
401	*	*		*	*	*		*		*	*					7
505	*	*			*		*	*	*							7
502	*	*			*		*		*							5
412	*			*			*	*	*	*	*		*			8
207	*			*	*	*	*		*			*				7
503	*			*	*	*	*			*					*	7
202	*				*	*	*	*								5
309	*			*	*			*	*							5
406	*			*		*	*	*								5
304	*				*	*			*							4
305	*				*	*									*	4
308	*			*	*				*							4
311	*			*	*		*									4
203	*				*	*	*									4
204	*			*	*	*										4
301	*			*	*	*										4
306	*			*	*		*									4
307	*			*	*		*									4
405	*			*		*	*									4
407	*				*	*	*									4
212	*				*	*										3
310	*			*				*								3
208	*			*		*										3
209	*			*		*										3
108	*					*										2
111	*			*												2
104	*			*												2
201	*					*										2
206	*					*										2
211	*															1
408	*															1
102				*												1
103				*												1
106				*												1
109				*												1
112				*												1
210				*												1
101																0
105																0
107																0
110																0
Total	49	21	8	41	35	35	28	25	25	20	14	10	8	8	4	

Key:

Availability of:

1. School building
2. Separate classroom
3. Pupil Bench
4. Water supply
5. Teacher's chair
6. Playground
7. School office
8. Toilet
9. Blackboard
10. Electricity
11. Fan
12. School library
13. Pupil desk
14. Telephone
15. Television

Figure II.5. Madhya Pradesh: Infrastructural facilities by schools

On the basis of this hierarchy of schools, a typology with four categories of institutions was drawn up:

(1) Schools without infrastructure (which have neither a building, nor benches or desks).
(2) Schools with limited infrastructure (which have buildings but without partitions between classrooms, and with no benches or desks).
(3) Schools with fair infrastructure (which have buildings and separate classrooms, but no benches or desks).
(4) Schools with satisfactory infrastructure (which have buildings, separate classrooms, benches and desks).

This typology of the schools is strongly correlated with their size (see *Table II.22*). It is among the smaller institutions that one most often finds schools with no infrastructure or with limited infrastructure.

Table II.22. Madhya Pradesh: Quality of infrastructure by school size

	<50	51-100	101-200	201-400	>400
Without infrastructure	66.7	12.5	6.3	-	-
Limited infrastructure	33.3	87.5	75.0	20.0	25.0
Fair infrastructure	-	-	18.7	60.0	25.0
Satisfactory infrastructure	-	-	-	20.0	50.0
Total	100.0	100.0	100.0	100.0	100.0

As might be expected, infrastructure quality is also closely correlated with whether the school is rural or urban (see *Table II.23*). In the rural zones there are no schools with satisfactory infrastructure and very few with fair infrastructure.

Table II.23. Madhya Pradesh: Quality of infrastructure by location

	Urban	Semi-urban	Developed rural	Marginal rural	Indigenous rural
	Indore	*Gwalior*	*Rajnandgaon*	*Rewa*	*Mandla*
Without infrastructure	-	-	-	8.3	75.0
Limited infrastructure	8.3	41.7	81.8	83.4	25.0
Fair infrastructure	58.4	33.3	18.2	8.3	-
Satisfactory nfrastructure	33.3	25.0	-	-	-
Total	100.0	100.0	100.0	100.0	100.0

But what deserves to be stressed most of all is that infrastructure quality is also very strongly correlated with pupils' marks, whether in Hindi or mathematics (see *Table II.24*). This does not mean that infrastructure quality has a direct influence on marks, because many other factors are involved as well. In actual fact, as will be discussed later on, what determines the quality of a school is not any one individual factor, but rather a set of factors that interact with one another. Nevertheless, India unquestionably has different categories of schools, in which pupil performances vary greatly, as shown in *Table II.24*.

Table II.24. Madhya Pradesh: Quality of infrastructure and pupils' results

	Hindi		Mathematics	
	Mean	Standard deviation	Mean	Standard deviation
Without infrastructure	31.64	10.32	22.70	13.11
Limited infrastructure	45.76	18.67	37.13	20.88
Fair infrastructure	60.79	20.37	54.89	23.49
Satisfactory infrastructure	73.57	17.17	63.20	19.71

VI. Conclusions

The material conditions of education, given their impact on the work and the motivation of teachers and pupils, undoubtedly constitute an important factor in academic success. These conditions vary by country, as a function of its level of development and of the resources that the country can devote to school education.

In this regard, the province of Zhejiang and the State of Puebla seem to be in a much more favourable situation than Guinea and Madhya Pradesh, both from the point of view of school buildings themselves, and from that of equipment made available to teachers and conditions offered to pupils.

Restrictions resulting from the crisis and from adjustment policies have affected certain budgetary items of education ministries more than others, and this is particularly true of school building maintenance. For this reason, the condition of school buildings leaves much to be desired, even in urban zones, as illustrated by the case of Guinea. But the greatest disparities continue to be those that distinguish urban from rural zones.

Still in Guinea, because of the same budgetary restrictions, the burden of building schools is being shifted more and more to the community and to pupils' parents, even though their own resources are generally very limited. Parents in rural zones participate in the construction of schools and provide table-benches for their children. This situation reinforces inequalities to the detriment of the most disadvantaged communities.

In the State of Madhya Pradesh, it is once again in the rural zones that one finds schools without buildings, classrooms without partition, and pupils sitting on the floor. Both for buildings and their basic equipment, disparities turn out to be comparatively less extreme in the State of Puebla and in the Province of Zhejiang.

The above remarks regarding school buildings also apply to pedagogical equipment available to teachers and to textbooks and supplies for pupils. In these two areas, it is once again the rural zones that have the most unfavourable conditions. In the State of Madhya Pradesh and in Guinea it is rare to find a class with geography maps or science posters. Pedagogical guides and documents written for teachers are also a scarcity.

Turning more specifically to school textbooks, the situation is rather different in the four countries. In India, in the State of Madhya Pradesh, textbooks have to be purchased by parents. In the rural zones, this represents a relatively large expenditure, and parents often do not make this sacrifice unless they have some assurance of their children's academic success. In the first grades, pupils generally do not have textbooks, but as they progress through the system, the proportion of pupils possessing the required textbooks increases, reaching virtually 100 per cent at the end of primary.

In China (Zhejiang), Guinea, Mexico (Puebla), textbooks are provided free-of-charge by the state. However, for reasons of organization and distribution, textbooks do not always reach Guinean schools, or at least are not distributed to pupils. Whatever the zone, barely one quarter of pupils actually possess the necessary textbooks. The situation in Puebla is completely different. On occasion, textbooks are no doubt delivered late or in poor condition, especially in the marginal rural zone, but essentially all pupils do have the four textbooks corresponding to the main subjects (language, arithmetic, natural sciences and social sciences). The same is true for Zhejiang.

The first conclusion one can draw from this analysis is that, at least in Guinea and in India, in the State of Madhya Pradesh, many schools in rural zones clearly do not have the minimum equipment required for an effective teaching/learning process actually to take place. Ensuring at least minimum material resources for all these schools is therefore an absolute priority for the educational policies of these countries. Any other measure aimed at improving the quality of education would simply be a waste, as long as this condition is not fulfilled.

The second conclusion is that the typical school does not exist. In each of these countries was observed an extreme variety of situations, running from the school devoid of everything in a remote rural zone to the very well-provided school in a privileged urban zone. As will be seen in *Chapter III*, these material differences are further reinforced by differences in human resources, both in terms of competence, motivation and stability of the teachers, and in terms of school management through the presence or absence of a headteacher with no teaching duties. The implication for planning is clearly that any measures proposed for improving education quality will also have to be variable, to make allowances for the specificities of each category of school.

Chapter III

The teachers

The quality of education depends on the quality of teachers. This is particularly true of primary education, when children are not yet at the stage of learning on their own. It is even more true of developing countries, where, especially in rural zones, other factors involved in the teaching process, such as textbooks, are often rare or quite simply non-existent. It is moreover not uncommon that in those zones the teacher is one of the few or the only learned person. Without a teacher there is no primary education. If teachers are discouraged or do not have the necessary pedagogical expertise, pupils learn very little.

Despite all this, there is relatively little research available on the teaching profession in most countries[1]. This is why, as part of this project, an attempt has been made to learn more about teachers' living and working conditions, the reasons why they started a teaching career, the professional support they receive, their relations with pupils' parents, their work satisfaction, etc.

In this chapter some of the data collected this way are analyzed. On the one hand, these are fairly conventional data covering 'feminization' of the teaching profession, the rural-urban breakdown, and professional qualifications and experience, which are examined mainly from the point of view of distributional imbalances among the various zones. Then an attempt is made to better understand how the teachers' living conditions, including their income and the effort they must make to assure their livelihood (or survival), influence their work performance. Finally, several aspects of their work satisfaction are explored – why they chose this profession, in the first place, whether they would like to change school or profession and for what reasons, and what are the main problems they encounter and face as regards their work?

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[1] Among the more comprehensive studies can be quoted Dove, L.A. (1986); Farrell, J. ed. (1993); Caillods, F. ; Postlethwaite, T.N. (1989); Rust, V.; Dalin, P. (1990).

Other information collected through interviews, and more directly related to the life of the school, will be presented in the following chapter about the functioning of schools. This pertains mainly to different forms of support that teachers receive when carrying out their duties, and to their relations with pupils' parents.

I. Imbalances in the distribution of teachers

(i) Feminization

The gradual feminization of the teaching profession, especially in pre-school and primary education, is a well-established phenomenon that varies as a function of the cultural tradition and level of development of the country concerned. What the case studies bring to light are disparities in the proportion of women teachers by zone within the same country.

In the State of Puebla, as in most Latin-American countries, the feminization rate is generally very high, although the contrasts among zones are quite striking. This rate varies from 85 per cent in the middle-class urban zone, to 66 per cent in the marginal urban zone, 55 per cent in the developed rural zone, 62 per cent in the marginal rural zone, and only 34 per cent in the indigenous zone.

The disparities by zone in Madhya Pradesh are even greater, for the feminization rate varies from 93 per cent in the privileged urban zone, to 42 per cent in the semi-urban zone, 18 per cent in the developed rural zone, 7 per cent in the under-developed rural zone, and 0 per cent in the indigenous zone.

In Guinea, the rise in the proportion of women teachers is a relatively recent phenomenon; nevertheless, the same trend is evident. The female teacher percentage is highest in the capital city zone (30 per cent), followed by the rural zone close to the capital (20 per cent) and the semi-urban zone (16.7 per cent), and lowest in the other three rural zones (7.7 per cent, 6.7 per cent and 5.3 per cent).

The percentage of female teachers in primary schools in the Zhejiang province was 53 per cent, higher than the national average (43 per cent). The urban zone counts the highest percentage of female teachers (92 per cent). In contrast with the other countries, the remote rural zones (the developing rural and minority zones) did not have the lowest share of female teachers: respectively 78 and 75 per cent, considerably more than in the industrial (43 per cent) and advanced rural (37 per cent) zones (see *Figure III.1*).

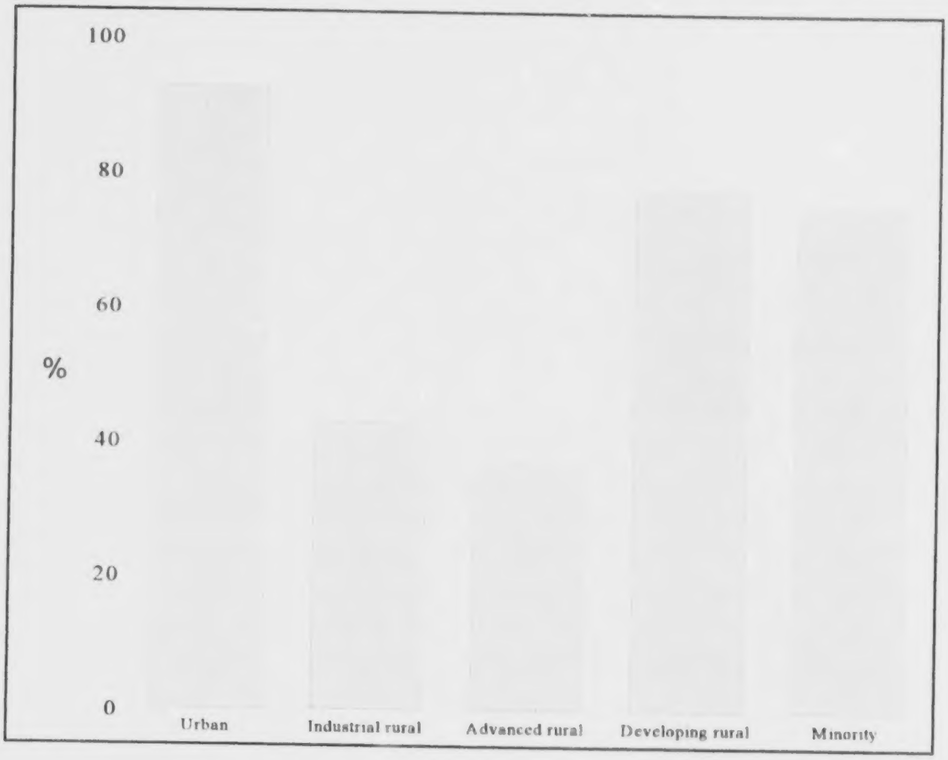

Figure III.1 Zhejiang: Percentages of female teachers

Thus one finds significant distortions in the distribution of women in all four countries, albeit to varying degrees. There is a concentration of women teachers in urban centres, in three of the four countries, to the detriment of remote rural zones. Several reasons can be offered to explain this observation. They relate to prevailing regulations, personnel management practices, traditions, etc. In any event, the low proportion of women teachers in the rural zones of certain countries may be a serious obstacle to improving school attendance among girls. But the low proportion of women among rural teachers is not the only disparity in the distribution of teaching staff.

(ii) Rural versus urban origins

A detailed analysis of the geographic origins of teachers brings another significant imbalance to light.

No such information was provided by the Zhejiang case study. For the other three countries, as expected, there is a direct relation between a teacher's place of origin, urban or rural, and his place of work. It is generally easier to send a teacher with rural origins to work in the city than the other way around. In the case of Madhya Pradesh, for example, 80 per cent of urban zone teachers have urban origins, against 40 per cent in the semi-urban zone and approximately 15 per cent in the three rural zones.

The data from Puebla provide a more detailed picture of these imbalances in the distribution of teachers. As shown by *Table III.1*, more than half of all teachers in the privileged urban zone of the capital city originate from that same city or from the capital cities of other states. In the marginal urban zone, situated in the suburbs of the State's capital, the percentages reflect the high immigration characterizing this zone. Only 20 per cent were born in the capital, and a clear majority originate from other locations, mainly in the same State of Puebla. On the other hand, in the three rural zones, the great majority, if not the entirety, of teachers hail from locations other than capital cities. The data also seem to indicate that teachers originating from locations in other states tend to be assigned to the marginal rural zone, and to a lesser extent to the marginal urban zone, for which it is no doubt more difficult to find local teachers.

Table III.1. Puebla: Distribution of teachers by their geographic origins

	Urban	Marginal urban	Devel. rural	Marginal rural	Indigenous population
Place of origin	*Puebla*	*Libertad Tecola*	*Zacatlán*	*Ixtacamaxtitlán*	*Cuetzalan*
Same as the place of work	-	2.2	4.6	-	4.7
Capital city of the State of Puebla	49.7	19.8	7.7	4.1	-
Capital city of another state	8.9	2.2	1.5	-	-
Other location in the State of Puebla	20.7	45.0	78.5	54.2	76.7
Other location in another state	20.7	30.8	7.7	41.7	18.6

Now this imbalance in the distribution of teachers as a function of their origins is not a problem in itself, and one could even find it advantageous that rural children be instructed by teachers who do not come from large urban centres. But as we shall see, this imbalance also involves negative consequences for the quality of education, in that it conceals other inequalities in terms of qualifications, professional experience and stability of the teaching staff.

(c) *Qualifications and professional experience*

The gradual and continuous displacement of teachers from rural zones to urban centres, on the basis of certain official criteria (seniority, degrees, performance, etc.) and of the teacher's ability to negotiate, has the result that the least experienced and least well-trained teachers start or finish up in the countryside. Moreover, the teaching staff in these zones is more unstable, precisely because of the continuous movement to towns. *Table III.2* below illustrates these consequences in Puebla.

Table III.2 Puebla: Percentage of teachers having done post-secondary studies. Average number of years of experience in total, in rural zones and in present school

Experience	Urban *Puebla*	Marginal urban *Libertad Tecola*	Devel. rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Percentage of teachers with post-secondary training	58	63	75	31	14
Average number of years total experience	16.8	10.3	12.0	8.0	12.3
Average number of years rural experience	5.4	8.6	10.0	7.5	11.6
Average number of years experience in present school	7.3	2.9	5.4	4.4	2.4

Teachers with the most professional experience are to be found in the privileged urban zone. Teachers in this zone have little experience of education in rural zones as compared to their total experience. It is also in this zone that teachers are the most stable.

Teachers in the marginal urban zone have generally served in rural zones for fairly long periods before coming to town. On the other hand, the small number of years of service in the school where they presently teach indicates a high level of staff turnover. This zone appears very much as a transition zone between the hinterland and the state's capital.

Teachers in the developed rural zone have mainly rural experience, and they represent the most stable rural zone. Those of the marginal rural zone have almost exclusively rural experience, and stability slightly below that of the developed rural zone. Teachers in the indigenous zone also have almost exclusively rural experience (probably in the same zone because of bilingual education), but their average number of years of service in their present school is the lowest of all zones.

Inequalities in the distribution of teachers serve to reinforce those already identified with respect to school supply. Schools in rural zones have in general the least favourable material and teaching conditions. They also have the least qualified, the least experienced and the least stable teaching staffs.

The same situation pertains in the government schools of Madhya Pradesh, as shown by *Table III.3*. The analysis excludes private schools, in which the recruitment and assignment criteria are not subject to the same rules as those that determine the movements of teachers who are civil servants. Once again, the most qualified teachers with the greatest experience are to be found in town.

Table III.3. Madhya Pradesh: (Government schools). Percentage of teachers with post-secondary studies. Average number of years general experience

	Urban	Semi-urban	Devel. rural	Marginal rural	Indigenous rural
	Indore	*Gwalior*	*Rajnand-gaon*	*Rewa*	*Mandla*
Post-secondary training	62.5	57.1	27.3	33.3	15.4
Average number of years experience	21.4	18.9	16.8	15.9	13.4

Differences between urban and rural sites exist equally in Zhejiang, but the situation deserves some detailed comment. In 1990, 64 per cent of the entire province's primary teaching force were qualified. In addition, some 4 per cent of teachers acquired a professional certificate through in-service training.

There are disparities between urban and rural sites, but they are related as much to the type of school[2] as to the characteristics of the site. The number of qualified teachers in complete primary schools, located mainly in townships, varied between 70 and 80 per cent. In village schools, it was only in the range of 30 to 60 per cent. In complete schools the qualification of teachers showed small deviation from the average, i.e. a rather even distribution of qualified teachers. This is probably due to the fact that these teachers are mostly on the government payroll and are allocated by the government. The qualification of teachers in village schools varied greatly, a reflection of the localized nature of community teachers.

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[2] See *Chapter II*, for a presentation of the different types of schools.

The disparity between urban and rural sites can in part be explained by the fact that among community or *minban* teachers (who are financed mainly by local funding), a high number is unqualified. By definition, there are no *minban* teachers in the urban site, because they are under rural registration. Although the percentage of *minban* teachers varied between the sites, with no significant association with the economic status of the site, it was noticeable that in the minority area, all teachers were public (*gongban*). This is perhaps because of the province's priority policy to develop education in minority areas.

In addition, the Zhejiang case study examined aspects of a teacher's profile and 'professional title'. 'Professional title' refers to a system recently introduced to reward better-performing teachers. There are four grades of teachers in primary schools, in ascending order: Grade III, Grade II, Grade I and senior teachers. The appointments require competence and good performance in general. Teachers with distinguished performance may have the academic qualification and experience waived during appointment. Among the 127 teachers under study, the large majority of them were Grade II (27 per cent) or Grade I (37 per cent) teachers. Some 20 per cent were senior grade teachers. In general, teachers in the urban schoolswere largely in Grade I or the senior grade. In most of the rural complete schools, the majority of teachers were either in Grade I or Grade II. In village schools, many teachers were not graded; those who were, were mostly in Grade II.

The case of Guinea reminds one that it is dangerous to generalize disparities between urban and rural areas, for in this country rural areas are not consistently worse off. As of a certain age, many teachers prefer to leave urban centres and to settle in their region of origin. This explains why the level of general studies in rural zones is not very different from that of urban zones, even though Conakry still has the advantage in the category of teachers with post-secondary education (see *Table III.4*).

In so far as age and professional experience are concerned, the results are also opposite to those of Puebla, Madhya Pradesh and Zhejiang (see *Table III.5*). On the other hand, when it comes to the instability of the teaching staff, as measured by the average number of years in the present school, the disadvantage of the least -developed rural zones is maintained.

Table III.4. Guinea: Distribution of teachers across the zones by level of general studies

Level	Urban *Conakry*	Semi-urban *Urban Kankan*	Dev. rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Primary or incomplete lower secondary		6.6	4.0	5.3	16.6	10.5
Lower secondary	20.0	10.0	16.0	18.4	30.0	23.7
Incomplete secondary	11.7	30.0	36.0	28.9	10.0	18.4
Secondary	56.6	50.0	36.0	31.6	40	42.1
Post-secondary	11.7	3.4	8.0	15.8	3.4	5.3

Table III.5. Guinea: Distribution of teachers by average number of years experience in total and experience in the present school

	Urban *Conakry*	Semi-urban *Urban Kankan*	Dev. rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Average number of years experience in total	11.3	12.7	11.2	14.8	15.1	15.5
Average number of years experience in the present school	5.0	3.2	3.9	4.7	2.9	2.3

There are many factors that may explain why the Guinean situation is special. According to the in-depth interviews, there are objective reasons that cause teachers to leave urban centres, in particular high cost of living and difficult housing and living conditions. It should be noted that the number of dependent children per teacher is particularly high in

Guinea. The average teacher, across all zones, has 4.9 dependent children. Teachers with more than six dependent children are no exception, for they constitute 27 per cent of all respondents in the six zones. Large family size is directly related to the system of polygamy, which is practised by about one quarter of the teachers interviewed. Some teachers therefore prefer to live in the country (or at least in a rural centre), where they have more space to house their family and to feed it by engaging in agriculture. As will be seen further on, the percentage of teachers who cultivate the land for their own consumption is particularly high in this country, excluding the capital city. But there also seem to be specific cultural factors, involving a profound desire to go back to one's roots as of a certain age.

II. Living conditions and distance from the school

The detailed analysis of teachers' material living conditions shows that, generally speaking and in all four countries, housing and furnishing are not very different from those of the average inhabitant of the corresponding zone. Which amounts to saying that these conditions are generally rather difficult. In rural zones and even in certain marginal urban zones, isolation combined with the absence of basic services (water, electricity, etc.) drives a good number of teachers to settle in small centres, which offer more amenities even if they are fairly distant from the school. Whether one can commute every day naturally depends on the road network and on the availability of means of transportation. In the most remote zones, teachers are therefore forced to live locally. The data for Madhya Pradesh illustrate these phenomena rather well (see *Figure III.2*).

In the indigenous zone of Mandla, where walking is the main means of transportation, almost all teachers live near their school. On the other hand, in Rewa, which has several main roads, more than one third of teachers live at 3 kilometres distance or more from the school, and one quarter at more than 5 kilometres. In Rajnandgaon, a developed rural zone with a good road network and means of transportation, three quarters of teachers have their residence at 3 kilometres or more from the school, and half at more than 5 kilometres.

The situation is more varied in towns, depending on their size, the type of urbanization and the specific district where the school is located. Still in Madhya Pradesh, one finds that almost all teachers, with just a few exceptions, in the semi-urban centre of Gwalior live at less than 3 kilometres from their school.

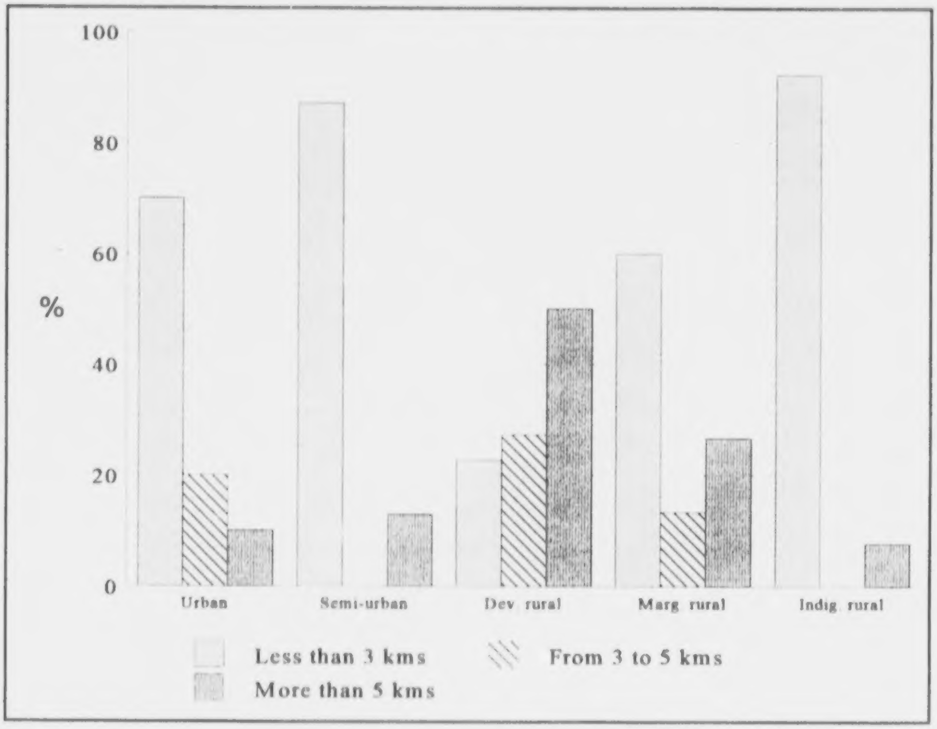

Figure III.2. Madhya Pradesh: Distribution of teachers by distance from home to school

On the other hand, in Indore, one of the most developed urban zones of the State of Madhya Pradesh, a good proportion of teachers have to travel to work (often by bus or scooter) more than 3 kilometres every day.

The data collected in Puebla yield results similar to those obtained in Madhya Pradesh (see *Figure III.3*). It is only in the marginal developed rural zone that teachers live locally (by necessity and not by choice). In the other rural zones, teachers prefer to live in centres where most services are concentrated. Even teachers in the marginal urban zone, where living conditions are rather harsh, tend to reside in the centre of Puebla, which offers a more comfortable environment.

In the rural zones of Guinea (see *Figure III.4*), where means of transportation are very limited indeed, the great majority of teachers if not all generally live in the communities where they teach (a little less in Labé where the habitat is extremely dispersed). This is not the case, however, in the two urban zones.

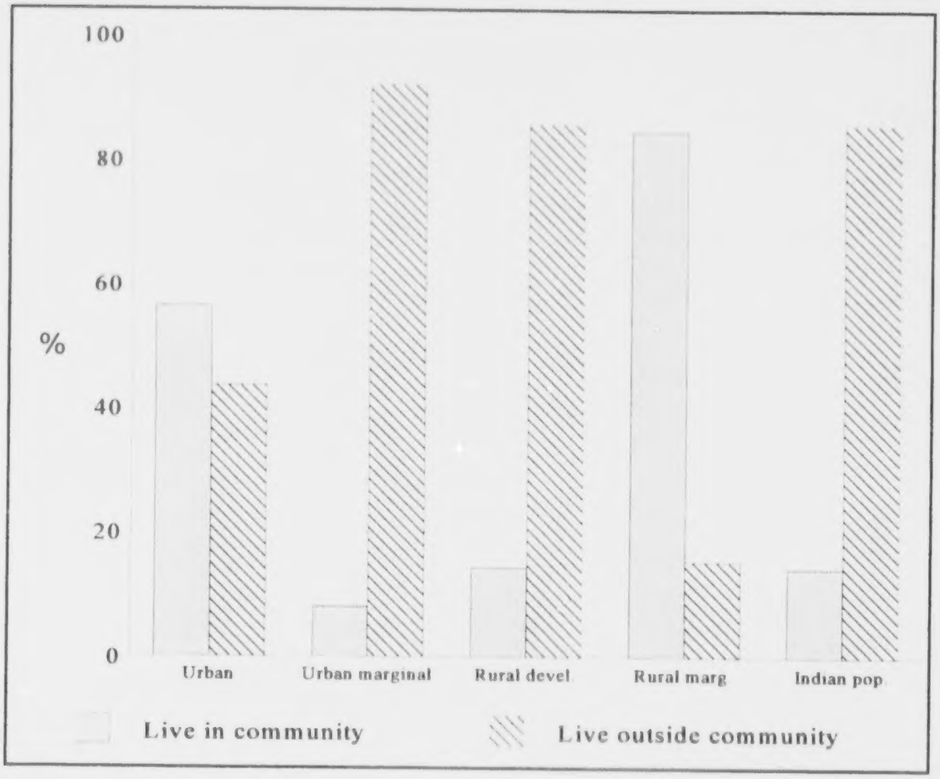

Figure III.3. Puebla: Percentage of teachers who live in the location of the school

In Conakry, for instance, 90 per cent of teachers do not live in the district where they work, and 70 per cent live at more than 3 kilometres from their school.

One can easily imagine that the physical distances separating teachers from their place of work have a negative influence on teacher punctuality and presence. Moreover, these same distances cannot help but affect relations between teachers and local communities, as shall be seen later.

In Zhejiang, the situation is altogether different. Teachers do stay in the vicinity where they teach and schools even used to provide quarters for all teachers. This has become rare now because of the difficulties in establishing such quarters in cities and because they became unnecessary in rural areas. Only five schools out of the sample were still providing quarters to at least some of their teachers.

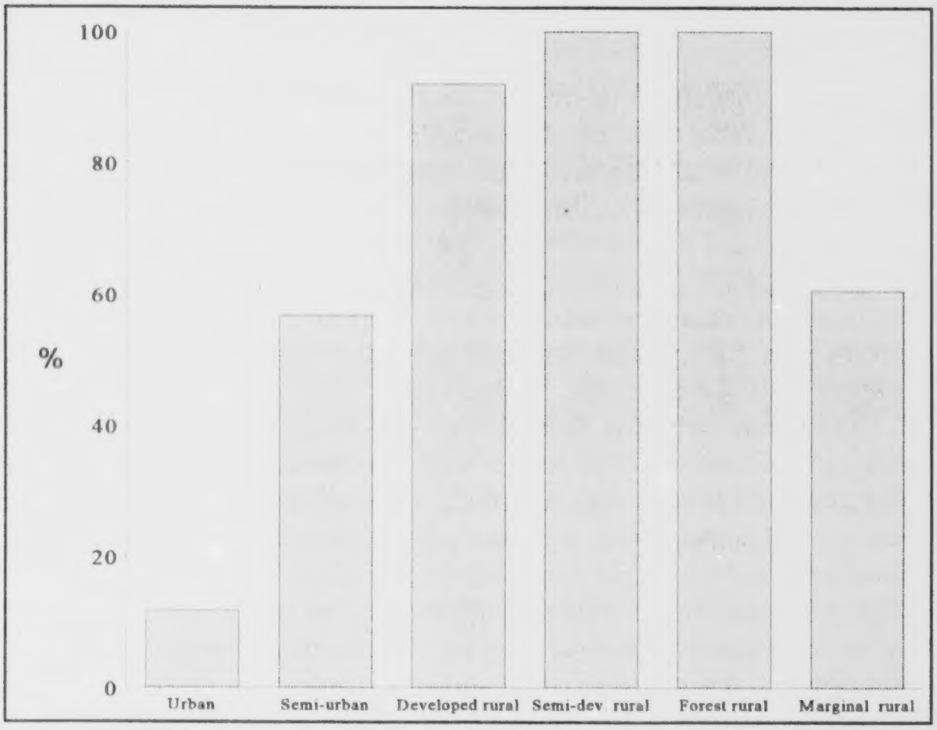

Figure III.4. Guinea: Percentage of teachers who live in the location of the school

It may be useful to mention that some teachers, in urban and town schools, often prepare their lunch at home because canteens are less prevalent in urban schools, and therefore leave the school sometime before lunch. As this consumes a significant part of teacher's time it may also affect punctuality.

III. Income

Several recent studies have shown that the salaries of teachers, like those of civil servants in general, have tended to decline over the last few decades, under the combined effect of the economic crisis and the structural adjustment programmes that were supposed to overcome this crisis[3].

In three of the four case studies (Madhya Pradesh, Guinea and Zhejiang), teachers were asked their opinions about their salary. All three studies confirm some dissatisfaction with their salaries, but less than one might have expected. In Madhya Pradesh, for instance, salary dissatisfaction is far from being a general phenomenon, as shown by the data in *Table III.6.* The in-depth interviews indicate that teachers assess their financial situation in relative terms, and that they do not necessarily consider themselves to be worse off than other salaried employees with the same kind of educational background.

These data also show that the degree of dissatisfaction is roughly the same in rural and urban zones, with the notable exception of the developed rural zone of Rajnandgaon. A more detailed analysis does not show any systematic link with the salary level of the teacher, whose assessment is relative and personal. Moreover, the salary opinion is no doubt an expression of a more general sense of dissatisfaction, having also to do with social status, living conditions, teaching conditions, etc. In this respect, it is characteristic that for several other questions as well, the level of dissatisfaction is lower in Rajnandgaon than in the other zones.

Table III.6. Madhya Pradesh: Distribution of teachers by their opinions about their salary

	Urban	Semi-urban	Devel. rural	Marginal rural	Indigenous population
	Indore	*Gwalior*	*Rajnandgaon*	*Rewa*	*Mandla*
Sufficient	26.7	6.5	4.5	13.3	7.7
More or less sufficient	16.7	32.3	72.7	26.7	38.5
Insufficient	56.6	61.2	22.8	60.0	53.8

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[3] See *inter alia* OIT (1996); Psacharapoulos, G.; Valenzuela, J.; Arends, M. (1993); Zymelman, M. ; Destefano, J. (1993).

The results of teacher interviews in Guinea paint the same general picture. Dissatisfaction with financial conditions is significant but not an obsession. When asked to indicate their main problem at work, a good proportion of teachers do in fact mention low salaries and mediocre living conditions, but as will be seen further on, in certain zones the shortage of textbooks and teaching materials is mentioned in first place almost as often or even more frequently.

Teachers' salaries in Zhejiang and in China in general are low. There are several studies with converging findings. In 1987, the average monthly salary of teachers in China was 118.5 *yuan* , which was less than the national average of 128.8 *yuan* among 12 major employment sectors. However, public teachers, being on the government payroll, are in a socialist system where salaries do not represent their entire income. Rent is subsidized, medical care is almost totally reimbursed. Children's education is free; additional miscellaneous fees collected by schools are often reimbursable. There are also various subsidies on items such as heating in the winter, bicycle depreciation, books and magazines and meat. Teachers however do not receive bonuses. As such, their incomes usually compare unfavourably with other occupations when the economy prospers, but are seen as stable when the economy deteriorates.

The above however does not apply to community (*minban*) teachers or substitute teachers, who are not on the government payroll. Such teachers usually receive a lower income than their public counterparts. Since 1984, local governments have been allowed to fix salaries for their *minban* teachers, with the central government guaranteeing a small fixed income to all teachers. *Minban* teachers have thus become partly dependent on local revenues and policies. There is therefore great disparity among localities. Zhejiang is among the few provinces which pays *minban* teachers as much as public teachers. They are also given some of the subsidies that public teachers benefit from. Hence, by national standards, *minban* teachers in Zhejiang are more reasonably paid than in most other provinces in the country. *Figure III.5* shows that, as in the other countries, teachers, while not happy with their salary, consider them tolerable.

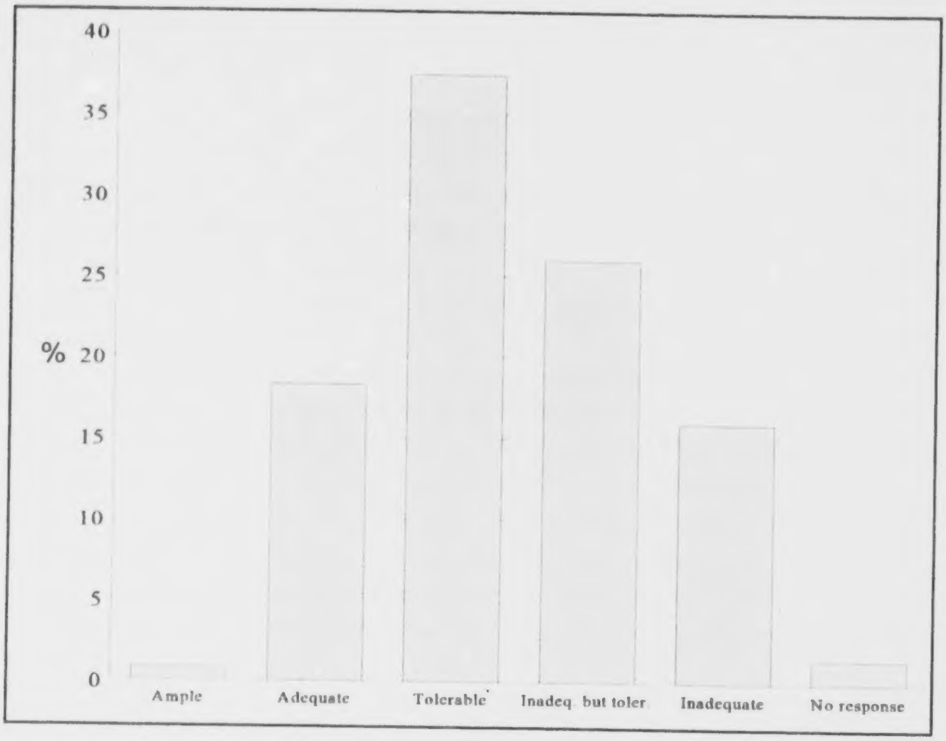

Figure III.5 Zhejiang : Distribution of teachers by their perception of their salaries

A breakdown by locality revealed that in most of the research sites, the modal group of teachers were of that opinion. This is a kind of lukewarm approval of the present situation. There is no significant pattern between sites, within sites between schools or even within schools.

In addition to asking about salaries, the research also tried to determine to what extent teachers have other types of income. The results for Madhya Pradesh show that, in all zones, the proportion of those who do have other sources of income varies between 30 per cent and 50 per cent (see *Table III.7*). Contributions by other family members are marginal everywhere, except in the town of Indore, where there are more employment opportunities in the tertiary sector. In rural zones the main source of extra resources is agriculture, while in urban zones it is private lessons. A more detailed analysis revealed that, with just one exception, all the teachers involved in the latter activity are in the private education system.

Table III.7. Madhya Pradesh: Distribution of teachers by sources of additional income

Source of income	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
None	56.7	61.4	45.4	46.6	69.2
Agriculture	0.0	3.2	50.0	46.6	30.8
Commerce	0.0	3.2	0.0	0.0	0.0
Private lessons	23.3	29.0	0.0	0.0	0.0
Family members	20.0	3.2	4.6	6.8	0.0

In Zhejiang, as mentioned earlier, a distinction needs to be made between public teachers, who receive various subsidies and should not need to undertake additional employment, and *minban* teachers, who have rural registration and thus hold, economically, farmers' status. In theory, this means that they are not entitled to buy commodity grain on the food market. They are supposed to grow their own grain and for this purpose, indeed, they have plots of land. However, no detailed information on the additional sources of income was gathered by the case study.

In Puebla, taking all zones together, more than half of teachers declare that other family members make financial contributions (see *Table III.8*). The extremes range from 76 per cent in the privileged urban zone to 40 per cent in the indigenous zone. On the other hand, teachers who claim to engage in other economic activities are markedly less numerous. The highest proportion is once again in the urban zone, while in this case the lowest is in the marginal rural zone[4].

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4. Information from three other case studies is available on samples of teachers in Latin America. In Argentina (a sample of 319 urban school teachers), 37 per cent hold a second job. 'Most of them moonlight as teachers in other schools within the education system, but one-fourth of them is self-employed' (Braslavsky, C. and Birgin, A., 1994). Similar results were found in a survey of 242 urban teachers in three Mexican cities (Farres, P. and Noriega, C., 1994) and in a survey of 304 teachers from three Brazilian provinces (Gatti, B. et al., 1994).

Table III.8. Puebla: Percentages of teachers claiming to have another economic activity and declaring another source of income in the family

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Have another economic activity	28.9	6.7	12.9	4.0	7.3
Have another source of income in the family	76.4	68.4	57.1	56.5	40.5

A more in-depth study was carried out in the case of Guinea, with a distinction made between additional monetary income and land cultivation for own consumption (see *Table III.9*). As was to be expected in a country where subsistence agriculture is predominant, this practice is very widespread everywhere except in Conakry, but even in the semi-urban zone of Kankan.

Table III.9. Guinea: Percentages of teachers practising agriculture, having another remunerated activity and with a spouse earning a salary

	Urban *Conakry*	Semi-urban *Urban Kankan*	Dev. rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Percentage practising agriculture	4.3	50.0	58.3	83.8	90.0	45.9
Percentage having another remunerated activity	22.4	20.7	20.0	2.6	16.7	10.8
Percentage with a spouse earning a salary	27.7	23.3	26.1	7.9	7.1	9.1

The same is not true of having another remunerated activity. The percentage of those claiming to have such an activity varies from 3 per cent in rural Kankan up to 22 per cent in Conakry, with an average 15 per cent over the six zones.

As to the type of activities, they are mainly selling agricultural products, commerce, giving private lessons (only in towns), and selling crafts (sewing and tapestries).

Apart from these supplementary activities, one also notes that teacher households where both spouses are salaried remain a small minority. The percentages vary from 8 per cent in rural Kankan up to 27 per cent in Conakry. It is not surprising that these percentages are highest in urban centres (and in Kindia which is close to the capital), where wage employment opportunities are greatest.

IV. Work satisfaction

Before analyzing several indicators of the degree of satisfaction or dissatisfaction that teachers feel in their work, it is useful to look at why they chose this profession. Is it a deliberate choice, as the expression of a definite initial motivation, or is it rather for lack of anything better, or even a constraint? There is no doubt that such choices depend on many factors: the family circumstances of the candidate, the attractiveness of the profession, the job market, the selection and guidance system at school, etc. As the case studies show, these factors interact differently depending on the country and on the group of teachers within the same country.

(i) The choice of the teaching profession

This question was not included in the teacher questionnaire in Zhejiang. For the three remaining countries, a first observation is that a significant proportion of teachers, but variable from zone to zone, did not choose their profession as a vocation but for lack of anything better. In Madhya Pradesh (see *Table III.10*) these proportions vary from 18 per cent in Rajnandgaon (the location where teachers, as indicated earlier, manifest higher satisfaction than elsewhere) to 40 per cent in Rewa. But in general the proportion of those who did not make a positive choice is a minority in four of the zones, amounting to roughly one quarter of interviewed teachers.

Table III.10. Madhya Pradesh: Distribution of teachers by how they chose their profession

Type of choice	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Deliberate choice	73.3	77.4	81.8	60.0	76.9
Imposed choice	26.7	22.6	18.2	40.0	23.1

The results in Puebla are very similar (see *Table III.11*). Those who say they made a positive choice, based essentially on a vocation and on esteem for the teaching profession in their family environment, are very much a majority in all zones, and especially in the privileged urban zone, where they constitute more than 85 per cent of the sample. However, when one examines only those teachers who chose their profession out of vocation, differences between zones become significant, with only one third of teachers belonging to that category in the developed rural zone against two thirds in the urban zone.

Table III.11 Puebla: Distribution of teachers by how they chose their profession

Type of choice	Urban *Puebla*	Marginal rural *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtacamaxtitlán*	Indigenous population *Cuetzalan*
Vocation	64.4	53.5	33.3	63.1	41.9
Encouraged by family environment	22.3	16.3	23.1	5.3	22.6
No other possibilities	2.2	9.2	20.5	-	9.7
Economic reasons	8.9	14.0	20.5	31.6	25.8
Other	2.2	7.0	2.6	-	-

In Guinea, on the other hand, the situation is much more problematic. The proportions of teachers who chose their profession by vocation are generally lower and more differentiated by zone (see *Table III.12*). The percentages vary from 10 per cent in urban Kankan right up to 70 per cent in Nzérékoré. As an average over the six zones studied, less than half (42 per cent) of teachers chose education as a vocation. The differences among zones are the result, of course, of a long series of successive displacements of teaching staff. Since career choice precedes present assignment, it is difficult to explain the former by the latter.

Table III.12 Guinea : Distribution of teachers by how they chose their profession

Type of choice	Urban *Conakry*	Semi-urban *Urban Kankan*	Developed rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Vocation	33.9	10.3	66.7	32.5	70.0	63.1
Constraint	11.9	17.3	12.5	29.7	23.3	23.7
Guidance	54.2	72.4	20.8	37.8	6.7	13.2

Those who did not have an initial vocation went into teaching either because they lacked resources to continue studying, or because they had to find a job to support their families, or mainly because the administration left them no choice after failure at the lower secondary, secondary or university graduation levels. Because of the specific guidance system that prevailed in Guinea under the first republic, this category of 'guided teachers' is particularly large. This explains why it is mainly teachers with a fairly long educational background who were guided, that is, who had to 'make do' with becoming teachers, for lack of access to other types of studies: about 50 per cent of those who finished secondary or did several years of post-secondary are in this situation, against 25 per cent of those who finished lower secondary or did several years of secondary, and 0 per cent of those who finished primary or did several years of lower secondary. Another variable that correlates significantly with choice of profession is age (but not sex, for example). It is mainly teachers between 30 and 40 years old who were 'guided' (44 per cent against 16 per cent for those over 40 and 6 per cent for those under 30). The fact that the great majority of younger teachers claim to have made a deliberate choice is a direct result of the change in the guidance system since the new regime of 1984.

(b) The desire to change schools

A first indication of work satisfaction is the desire to change schools. As was pointed out earlier, this desire is generally very strong, especially in rural zones, where teachers want to get closer to more comfortable local centres or, better still, to large urban centres.

For example, when teachers were interviewed in Puebla, they were asked about their plans for the immediate future. The results set out in the following *Table III.13* clearly show that the desire to change schools predominates, except in the privileged urban zone, where the majority of teachers want to stay where they are, with possibly a change of classes. Looking at this table, one would even be tempted to say that the greater the objective possibility of moving toward a centre, the stronger the desire to take advantage of this possibility. For the percentage of candidates for change is higher in the marginal urban zone than in the indigenous zone.

Table III.13 Puebla: Distribution of teachers by their plans for the immediate future

	Urban	Marginal urban	Devel. rural	Marginal rural	Indigenous population
	Puebla	*Libertad Tecola*	*Zacatlán*	*Ixtaca-maxtitlán*	*Cuetzalan*
To change school	10.1	53.6	59.3	46.7	40.9
To be seconded	3.3	3.5	3.7	6.7	4.5
To leave education	13.3	17.8	-	13.3	4.5
To remain but in another class	30.0	7.2	14.8	-	13.6
To remain in the same class	30.0	14.4	11.1	13.3	27.3
Other	13.3	3.5	11.1	20.0	9.2

There are no data in this regard for Madhya Pradesh or Zhejiang. In Guinea, on the other hand, teachers were asked outright whether they wanted to change schools and why (see *Table III.14*). The results are similar to those of Puebla, with desire to change schools being very clearly dependent on the zone where the teacher works. The proportion of teachers who want to change schools is greater than half in all the rural zones, one third in the semi-urban zone of Kankan, and just one seventh in Conakry.

Table III.14. Guinea: Percentage of teachers expressing the desire to change schools

Urban *Conakry*	Semi-urban *Urban Kankan*	Dev. rural *Rural Kindia*	Semi-dev. rural. *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
15.0	26.7	64.0	65.8	60.0	63.2

It should be pointed out that the results for Conakry are not necessarily in contradiction with what was said earlier about the voluntary departure of certain city teachers to the country as of a certain age, and especially as of a certain family size. This is because the percentage of young unmarried teachers is by far the highest in Conakry (25 per cent).

A more detailed analysis of the reasons given in interviews for wanting to change schools confirms that, in all cases, the main reasons for this desire have to do with harsh living conditions, too great a distance between school and home (especially in town, but also in Labé where the habitat is very dispersed, as already mentioned), and isolation from any centre.

(iii) *Desire to change profession*

The desire to change schools is not, of course, synonymous with the desire to change profession. The question that was put in this respect in the three countries: Guinea, Mexico (Puebla) and India (Madhya Pradesh) was whether the teacher would opt for the same profession if he were to recommence his career. Once again, the results obtained in these three countries are concordant. The proportion of those who would try to do something else is considerable, but variable as a function of the country and the zone.

Before studying these results in detail, let one look at the Zhejiang case. There, teachers were asked the more straightforward question, whether they were satisfied with their work? The majority (63 per cent) remained 'neutral'; 13 per cent felt 'fairly satisfied'; 17 per cent felt 'slightly unsatisfied'; 6 per cent felt 'very unsatisfied'; and only less than

1 per cent felt 'very satisfied'. By site breakdown, teachers in all the sites show more or less the same pattern of satisfaction, with the exception of the urban site of Hangzhou, where a considerably larger number of teachers (39 per cent) felt 'slightly unsatisfied'. Discipline problems among students, which seem more prevalent in cities, could be a factor in this dissatisfaction. School breakdown does not show a particular difference among schools. All this perhaps reflects the reality as well as the difficulty in measuring feelings. The Chinese culture is in general tolerant and moderate, which perhaps explains the general tendency that most teachers under study selected 'fairly satisfied' and 'neutral'. In this context, the fact that the questionnaires are not anonymous should be taken into consideration.

In Puebla, on the question of whether the teacher would opt for the same profession if he/she were to recommence his/her career, percentages range from 25 per cent to 55 per cent, with an average of about 40 per cent across all zones (see *Figure III.6*).

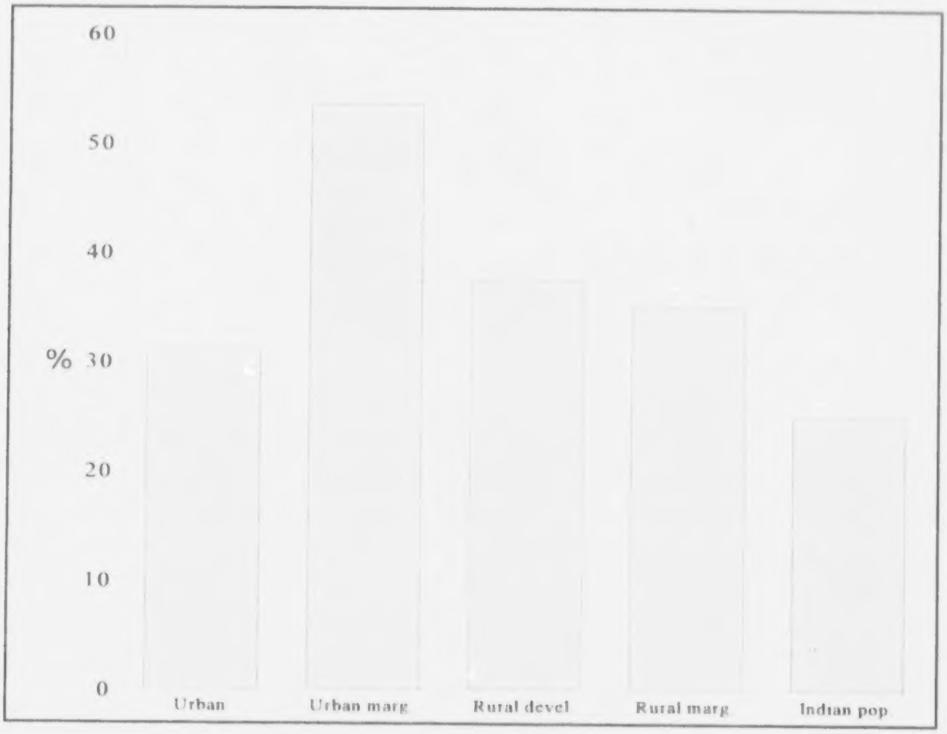

Figure III.6 Puebla : Percentage of teachers who would opt for the same profession

The lowest percentages are to be found in the privileged urban zone, where life is most comfortable and where one finds the highest percentage of teachers who chose their profession by vocation, and in the indigenous rural zone, where more teachers are indigenous and where the lack of alternative job opportunities may also be most severe.

In Madhya Pradesh, the percentages range from 14 per cent to 45 per cent (see *Figure III.7*). One should note yet again the low percentage of teachers wanting to change profession in Rajnandgaon, which confirms the generally higher degree of satisfaction in this developed rural zone. The relatively high proportions in the two urban centres are largely due to the presence of teachers working in private schools. The desire to change profession is stronger in these schools because of relatively low salaries and insecure conditions of employment. The reason for changing profession invoked by almost 90 per cent of respondents was their low salary.

The proportion of those who would opt for a different career is higher in Guinea than in the other countries (see *Figure III.8*). This is not surprising given the particularly high proportion of teachers who did not choose their profession by vocation. The percentage varies from 30 per cent to 60 per cent, and the average for the six zones is close to 50 per cent. The reasons most frequently invoked to justify this choice are, as in the case of Madhya Pradesh, low salaries and difficult living conditions (84 per cent). The developed and forested rural areas are those where teachers seem less unhappy with their career choice. This appears unexpected, as living conditions are certainly not less difficult there than in the other zones. As in the case of Puebla, there seems to be some relationship with the original choice of the career. Indeed, the proportion of teachers who chose their career by vocation is considerably higher in the developed and forested rural areas than in the urban or semi-developed rural ones (see *Table III.12*).

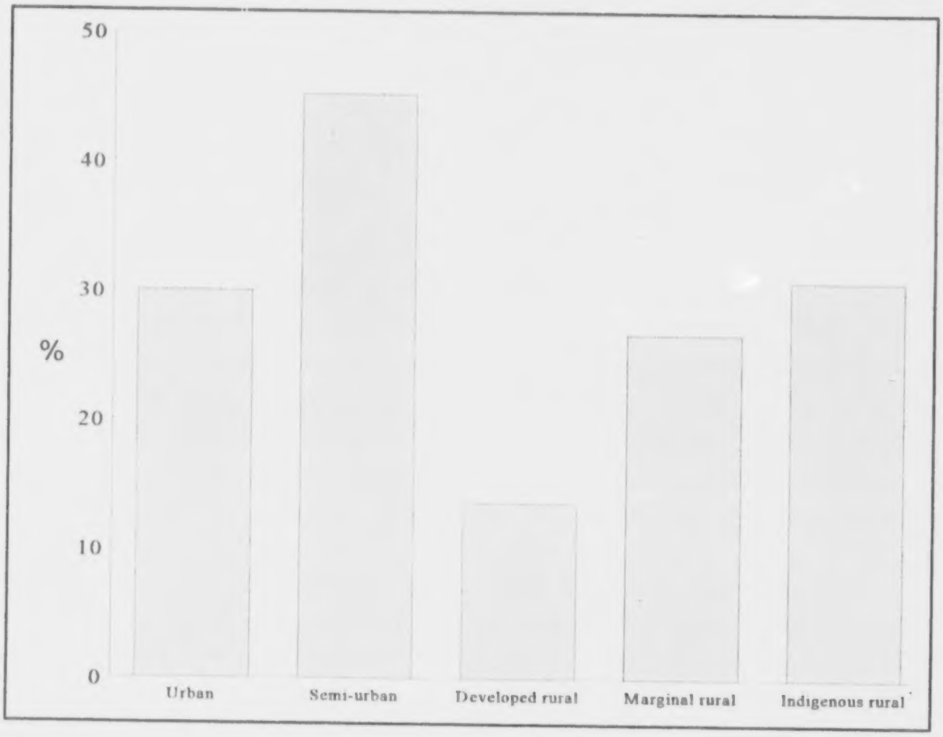

Figure III.7. Madhya Pradesh: Percentage of teachers who would not opt for the same profession

During the interviews in Guinea it was also asked whether the teacher would like his son, assuming he had one, to become a teacher. The answers confirm those given to the previous question, but with amplification of the negative responses as one might have expected (the average for the six zones is 70 per cent).

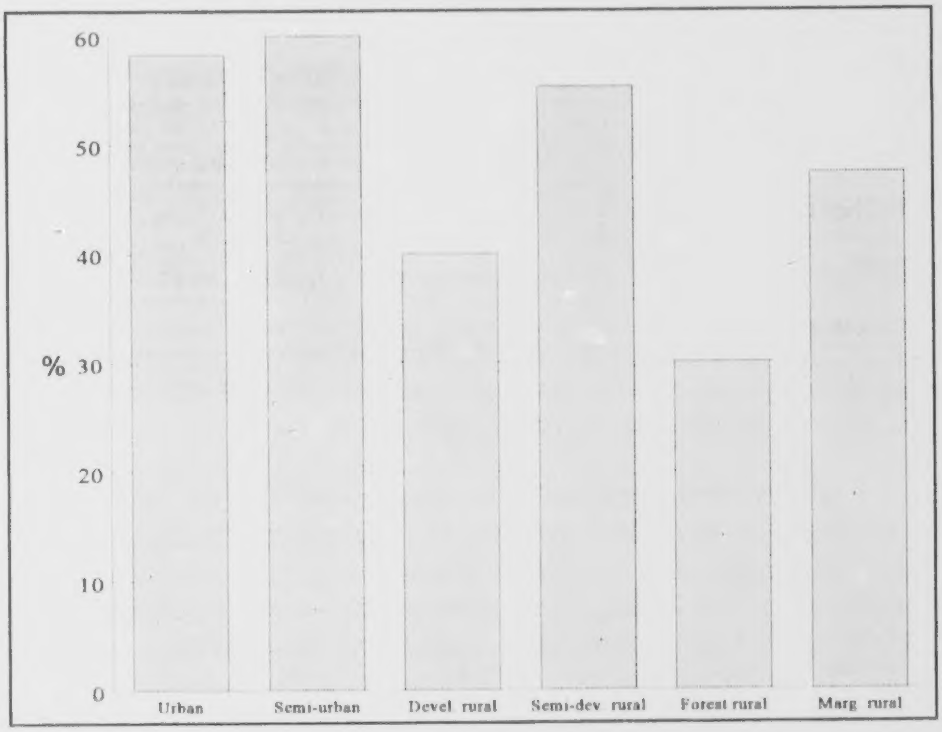

Figure III.8 Guinea: Percentage of teachers who would not opt for the same profession

A closer analysis shows that there is a systematic and very strong correlation, in the three countries (Guinea, Mexico and India) where these questions were asked, between freely choosing the profession and work satisfaction; this is illustrated in *Table III.15* for Guinea.

Clearly the practice of teaching does not cause people to like the profession if they did not have a positive attitude from the outset. The tendency for negative selection of teachers observed in many countries is obviously not favourable to the creation of a motivated teaching staff. Making the teaching career more attractive to young people is a major challenge for any policy aiming at serious improvement of the quality of education.

Table III.15. Guinea: Teachers' desire to change profession by the type of initial choice of profession

	Would opt for the same profession	
Initial choice of profession	Yes	No
Deliberate choice	72.9	27.1
Imposed choice	32.2	67.8

(iv) Respect from the community

It is interesting to note that other factors often invoked to explain the education crisis, such as deterioration of social status or declining respect from society, are hardly mentioned as reasons for dissatisfaction. This is not surprising in Zhejiang, China, where a majority of teachers believes that their profession has gained in status. But in the other three countries, although a significant proportion of teachers do consider that there has been a general decline in esteem for the school and in social respect for the teacher, they nevertheless feel personally respected by their community[5]. It will be seen later that this opinion is shared by parents.

In Puebla, for example, a good proportion of teachers believe that the teaching profession has lost esteem in the community (between one fifth and one half depending on the zone), but at the same time a large majority feel that they are personally highly respected. As we see rather paradoxically from the following *Table III.16*, the sense of being respected is strongest in the privileged urban and indigenous zones, and weaker in the marginal rural zone. But the differences are not very great, except for the marginal rural zone.

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[5] Several other studies seem to confirm this conclusion. See for instance Carnoy ; Torres (1992), Ravindranadham (1991) and Gatti *et. al.* (1994).

Table III.16. Puebla: Percentages of teachers who feel there has been a decline in esteem for the school and of those who believe they are respected by the community

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Decline in esteem for the school	34.1	55.6	50.0	40.0	25.0
Personal respect	95.5	92.3	97.4	78.9	93.8

One finds much stronger inter-zonal contrasts in Guinea and Madhya Pradesh. Each time it is the rural teachers who feel least respected and in higher proportions than in Puebla. This observation is another indirect indicator of the general sense of isolation and frustration that teachers in these zones experience.

In Zhejiang, as was noted above, the situation is different. About 64 per cent of teachers rated their social status as acceptable; 30 per cent thought that it was too low and 6 per cent felt it was very high. When asked to compare with 1979 (immediately after the cultural revolution and the beginning of the open policies), 64 per cent felt their social status had elevated, while 31 per cent felt it was more or less the same. Teachers in different sites expressed similar ratings, apart from the odd exception of the urban site of Hangzhou, where over half (56 per cent) of the teachers considered that teachers' social status was too low. Hangzhou is also the only site where a majority of teachers felt that their status had decreased in recent years. One justifiable interpretation is that in Hangzhou, there is more of an open economy bringing with it inflation and the cult for money. As a result teaching has become less respected than it used to be.

However, lack of respect in itself does not emerge from interviews as a significant dissatisfaction factor in any country.

The main reasons for dissatisfaction are always related to salaries and living conditions[6]. But , as already pointed out, these are not the only problems of concern to teachers.

(v) *The main problems of concern to teachers*

In Guinea, for example, the answers to an open question, regarding what causes most problems in the work of a teacher, yield the following results (*Table III.17*). The problem most frequently mentioned by teachers is low salaries, especially in urban zones, mixed in with the more general problem of difficult living conditions. But the issue of shortage of teaching materials, and particularly textbooks for pupils and guides for teachers, comes immediately after. The particularly difficult material conditions of teaching in a country such as Guinea have already been analyzed. Information collected through interviews with teachers shows that they are particularly sensitive to this. How can one teach well without some basic educational tools? This is a major concern for teachers, which does come after that of salaries (except in one zone), but well ahead of all the other problems, some of which are specific to very special regional contexts. It is interesting to note, for example, the relatively high percentage of teachers who complain about overcrowded classes, lack of pupil discipline and distance to school in the city of Conakry. It is also important to stress that certain problems are not mentioned at all, such as lack of pedagogical support from inspectors, inadequacy of training, lack of contact with parents, etc.

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6. Data from other case studies confirm this. When a group of rural female teachers in Pakistan was asked to list reasons which could force them to quit serving the profession, the following factors came out on top: low income (56 per cent), lengthy school timings (14 per cent), less chances of promotion (9 per cent), low social status (5 per cent). No other factor scored above 3 per cent (Bhatti, et. al., 1988). In Argentina, the most frustrating aspects of the teaching profession were low salary (44 per cent), multiple extra-curricular demands (11 per cent) and lack of minimal material conditions (10 per cent) (Braslavsky and Birgin, 1994). On the same question, the answer in Mexico was as follows: low wages (58 per cent), affective ties around the school (10.3 per cent), lack of minimum supply of materials (5.8 per cent). This last factor plays a greater role in the marginalized areas than in the other ones. The lack of training and updating opportunities was mentioned by 5 per cent of teachers. Twenty five per cent however gave no answer (Farres and Noriega, 1994).

Table III.17. Guinea : Classification by order of importance, as seen by the teachers, of the main problems in the work of a teacher

Problem	Urban	Semi-urban	Developed rural	Semi-dev. rural	Forested rural	Marginal rural	Average of the six zones
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*	
Low salary, mediocre conditions	1 *(43.2)*	1 *(60.6)*	2 *(31.1)*	1 *(69.4)*	1 *(50.0)*	1 *(53.3)*	1 *(51.1)*
Lack of teaching materials	2 *(28.4)*	2 *(23.7)*	1 *(58.7)*	2 *(20.4)*	2 *(47.7)*	2 *(34.0)*	2 *(35.3)*
Difficult profession	4 *(5.4)*	3 *(5.3)*	-	3 *(4.1)*	-	3 *(6.4)*	3 *(3.9)*
Distance from school	3 *(10.8)*	4 *(2.6)*	3 *(3.4)*	-	-	4 *(2.1)*	4 *(3.1)*
Personal illness	-	4 *(2.6)*	3 *(3.4)*	3 *(4.1)*	-	-	5 *(1.7)*
Low level of pupils	7 *(1.4)*	4 *(2.6)*	3 *(3.4)*	-	-	2 *(2.1)*	6 *(1.6)*
Poor condition of school facilities	7 *(1.4)*	-	-	4 *(2.0)*	3 *(2.3)*	4 *(2.1)*	7 *(1.3)*
Lack of pupil discipline	6 *(4.0)*	4 *(2.6)*	-	-	-	-	8 *(1.1)*
Overcrowded classes	4 *(5.4)*	-	-	-	-	-	9 *(0.9)*

Table III.18. Madhya Pradesh: Classification by order of importance, as seen by the teachers, of the main problems in the work of a teacher

Problem	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*	Average of the five zones
Lack of equipment	1 *(27.0)*	3 *(18.0)*	2 *(28.8)*	1 *(48.6)*	1 *(63.1)*	1 *(37.1)*
Lack of family interest	1 *(27.0)*	2 *(20.0)*	1 *(32.2)*	2 *(37.1)*	2 *(21.1)*	2 *(27.5)*
Low salary	3 *(14.3)*	1 *(36.0)*	3 *(10.2)*	3 *(5.7)*	4 *(5.3)*	3 *(14.3)*
Lack of career prospects	3 *(14.3)*	4 *(10.0)*	9 *(1.6)*	-	-	4 *(5.2)*
Too much work	6 *(4.8)*	5 *(8.0)*	5 *(5.1)*	3 *(5.7)*	3 *(10.5)*	5 *(6.8)*
Work wrongly distributed	5 *(7.9)*	-	4 *(8.5)*	-	-	6 *(2.7)*
Lack of pedagogical support	8 *(1.5)*	6 *(4.0)*	5 *(5.1)*	5 *(2.9)*	-	7 *(2.7)*
Overcrowded classes	7 *(3.2)*	-	3 *(5.1)*	-	-	8 *(1.7)*
Overloaded curricula and language problems	-	6 *(4.0)*	8 *(3.4)*	-	-	9 *(1.5)*

This does not mean that these problems do not exist in Guinea, but quite simply that they do not spontaneously come to the minds of teachers when they are asked to describe the difficulties of their profession.

We will have an opportunity in the next chapter to look at these problems in greater detail and to see how teachers perceive them.

In the interviews with Madhya Pradesh teachers (see *Table III.18*), the problem of salaries was only in third position, after lack of equipment and lack of interest on the part of families, that is, the children and their parents. It can be seen that differences among zones are fairly small. The greater importance attributed to the remuneration issue in the urban zones (especially in Gwalior) is in fact due to the presence of private school teachers. In these two zones, one third of responses from such teachers refer to this issue, against less than one tenth for teachers working in public schools. This confirms the rather general dissatisfaction, already observed earlier on, among private sector teachers with their financial condition. The fact that lack of interest on the part of parents and children is invoked so often by respondents is symptomatic of a general lack of contact between teachers and families, as will be seen in *Chapter IV*.

V. Conclusions

The data presented in this chapter have made it possible to identify more precisely some key problems that arise in connection with the management of teaching staff.

First noted were major imbalances in the distribution of teachers over zones. Rural zones generally have fewer female teachers than urban centres, teachers are less qualified and have less professional experience. Each of these statements however need some qualification. As regards the presence of female teachers, considerable differences exist between countries and are apparently related to the development of a country's education system in general. While, according to the sample, two thirds of teachers are women in Puebla and half in Zhejiang, in Guinea only approximately one in ten are female. Although it is true that the urban centres always count by far the most female teachers, the remote rural areas are not in all four cases the worst off: in Zhejiang, women are indeed better represented in the remote than in the more developed rural zones which is probably the result of the deliberate policy to reduce imbalances. The possible negative implications of a low proportion of women teachers for school attendance by girls is well known and is sufficient reason for governments to attempt to repair this disparity.

Some examples from the case studies can illustrate the significant differences in professional experience and qualification between the different zones. Fifty- eight per cent of teachers in the urban zone of Puebla have post-secondary training, as compared with 14 per cent in the indigenous zone of Cuetzalan. Teachers in Indore (urban Madhya Pradesh) have six to eight years more professional experience than in the marginal and indigenous rural areas. But again the rural areas are not everywhere disadvantaged. In Guinea, for example, the most experienced teachers are found in the more remote zones. This is related to several factors, which seem specific to the country (the high number of children, making it difficult to find housing in the city; the need to cultivate the land for the same reason; the desire to return at a certain age to the village of origin). In China, the fairly favourable situation of the minority zone, as far as the availability of qualified public teachers is concerned, could be an expression of the government's policy to promote education there. Such a policy can indeed make a difference[7].

A well- qualified and experienced teacher is however not necessarily an efficient teacher. Stability in a school is another factor which is just as important. The lack of stability, the result of a profound desire for change on the part of teachers for reasons that have been analyzed, prevents teachers from committing themselves fully to the school to which they are 'provisionally' assigned, and from forging links with the community they are supposed to serve. Based on the available information, high turnover of teachers is therefore much more of a problem in the rural and marginal areas than in the urban centre. Transfer away from an isolated village school is, not surprisingly, considered a promotion.

Furthermore, the questions about place of residence show that, where possible, teachers in rural zones live in centres that may be far from the school but that offer more social services and comfort. One can easily imagine the negative influence that this situation may have on the

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[7] Carnoy and Torres (1992) quote also the case of Costa Rica where '... with the economic downturn, a curious phenomenon has occurred. University-trained teachers have been increasingly seeking appointments in rural schools to enjoy the salary differential for teaching in the less favourable areas of the country. In addition, given the shorter school day, there is the possibility of combining more than one teaching job. Furthermore, teaching in rural areas earns extra time for retirement purposes.'

160

quality of educational service. To begin with, it accentuates the rift between the teacher and the community. The teacher does not constitute part of the community, and his daily commuting leaves him little time to do anything but teach. Furthermore, this commuting can result in lateness and absenteeism, especially when it depends on public transport. However, in some remote rural areas, teachers do not have a choice but to live close to school. In Guinea indeed, all teachers in the semi-developed and forest rural areas live in the school's location. While in urban or semi-urban zones, teachers sometimes live further in distance from school, they are actually closer: it takes them less time to reach school, as access to the school in general is easier. In the following chapter we will look in more detail at teachers' relationships with parents.

In this chapter, the complex issue of teachers' motivation has been discussed. Among the data which are disturbing, one can quote the following. Forty per cent of the teachers interviewed in Puebla and 30 per cent of those interviewed in Madhya Pradesh would not opt for the same profession if they were to recommence their career. In Guinea, the average proportion for the different zones is close to 50 per cent. In China 13 per cent of teachers felt fairly satisfied with their work, while 23 per cent felt unsatisfied, less than 1 per cent felt very satisfied, while the vast majority (63 per cent) remained neutral. To summarize, in all countries a sizeable group of teachers is not satisfied with their job.

Three factors help to understand this feeling of dissatisfaction. Firstly, a significant proportion of teachers did not choose their profession as a vocation, but for lack of anything better. There is no clear pattern between zones, which is not unexpected, since career choice precedes present assignment. But there seems to be a relationship between career choice and satisfaction. The desire to leave teaching is particularly strong in Guinea, the country with the highest proportion of teachers who did not start their career as a free choice. Second, the work environment is seldom felt as encouraging. The lack of teaching materials in particular is a regular complaint, found not only in the case studies but in comparable ones in other countries. The third and most important element is, of course, salaries. Salaries have tended to decrease in most countries, and in some cases more than for other professions. As a result, many teachers feel forced to look for a second job. This is more the case in urban areas, where such opportunities are more widespread, while in rural areas high proportions of teachers are engaged in agricultural production. These difficult living conditions emerge from the interviews as the main reason for the discontent of the teachers, much more than other factors such as deterioration of social status or declining respect from society, which are hardly mentioned by the interviewees.

Nevertheless, it has also been seen that low salaries are not the only problem that bothers teachers. In the case of Madhya Pradesh, the problem of difficult material conditions of teaching is quoted more often than that of low salaries, as is the feeling of not being supported by the families. Thus it would seem that the margin of manoeuvre for stimulating teacher motivation is not limited just to salary increases. There is a real place for other measures aiming at the improvement of the human and material working conditions of the teaching force.

This chapter has shown a series of objective constraints, present mainly but not exclusively in rural areas, that are too easily forgotten when proposals for improving the quality of education are made. Such proposals very often assume a commitment on the part of the teacher that goes well beyond what he or she is capable of giving. It has indicated some fields where governments can and should undertake action to improve teachers' conditions. *Chapters IV and V* will look in more detail at teaching conditions.

Chapter IV

Teachers' interactions

There are several ways of analyzing the functioning of schools. In this chapter one does it from the point of view of the teachers and of their relationships with some of their partners in the education process. Successively analyzed are interactions inside the school with the headteacher and colleagues; relations with the education administration, and more particularly with the inspection and in-service training services that are supposed to provide professional support to teachers; and relations with parents and the community. The pedagogical process that defines relations with pupils within the class is outlined in *Chapter V*.

The analysis of all these interactions will give a more precise idea of how schools operate, and hence of the real quality offered by educational services in the various zones of the different countries.

I. Interactions with the headteacher and colleagues

There is a clear tendency at present to consider the school as the best level of intervention for improving the quality of education. In this new vision, the role of pedagogical leader, to be played by the headteacher, occupies an important place, as does the exchange of experiences among colleagues, that is, the creation of a genuine teaching community[1].

Unfortunately, as seen in the chapter on teaching conditions, this vision of the school does not always correspond to reality. Not all schools have a headteacher or a group of teachers able to help one another. Many institutions in rural zones have only one or two teachers, and it is difficult in these cases to count on the headteacher's leadership to improve the functioning of the school. In the case of Madhya Pradesh, for instance, the standards provide that an official headteacher can be appointed only for schools with at least four teachers. This means that in rural schools, it is simply the most experienced teacher who is supposed to manage the school without having any real authority over his colleagues.

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[1] Several studies have recently addressed the role headteachers can play in improving education, but they mainly focus on developed countries, where school-based management has gained ground. So far little descriptive literature exists on school heads in developing countries. Among the exceptions can be noted: W. Den Hartog Georgiades ; H.L. Jones (1989), and Dadey, A. ; Harber, C. (1991).

But many other problems arise. Still in the case of Madhya Pradesh, one notes that no headteacher or teacher acting as a headteacher has received the slightest training to prepare him/her for managing an educational institution. Moreover, most have not even received any pedagogical training, neither has the majority in rural zones reached the level of general education presently required to become a teacher. The case of Madhya Pradesh is no doubt special. For example, the fact that even headteachers do not have any pedagogical qualifications is but a reflection of a larger problem, namely a rather general lack of initial teacher training, which is due to a particular recruitment system, as shall be seen later on.

Nevertheless, this case is a good illustration of several problems that one finds in other countries, and that are obstacles to headteachers playing their roles effectively. The first is that the criteria for promoting a teacher to the position of headteacher are often purely administrative criteria (such as the number of years of service, and sometimes, but not always, the level of qualification), and rarely criteria having to do with the candidates' pedagogical abilities and management or leadership qualities. The second is the lack of specialized training for headteachers. While the situation in Madhya Pradesh, where no headteacher has received such training, is extreme, the data for Mexico indicate that the problem arises elsewhere as well. In the five zones studied, half the headteachers had received no specific training to prepare them for their duties. It is naturally the headteachers of rural zones who are most disadvantaged. Only two headteachers in ten in the marginal rural zone had received special training, against eight in ten in the privileged urban zone.

In addition to this lack of pedagogical competence and specialized training, there is the fact that many headteachers also have teaching responsibilities, especially in small schools in rural zones. In Mexico, the proportion of headteachers with a group of pupils under their wing varies from less than one in ten in the privileged urban zone right up to eight in ten in the marginal rural and indigenous zones. In Madhya Pradesh this proportion varies from three in ten in the urban zone of Indore up to ten in ten in the indigenous zone of Mandla. Headteachers who teach, and the more so when they have a full-time teaching job, naturally have less time to devote to their responsibilities as head of the institution. In Zhejiang, the fact that a principal teaches is not considered a disadvantage, rather to the contrary. A principal who does not take up teaching duties may be seen as unprofessional and it is believed that sooner or later he/she will lose contact with classroom reality. It is then no surprise that all principals in the sample taught. This is also the general trend in China. However, there was considerable variation among the different sites. Among the 32 principals under study, the modal group taught more than 11 periods per week and spent some 30 per cent of their time on teaching, while urban principals taught less than rural principals. However, there is also evidence that the teaching load is left to the discretion of the principal and hence, even within one site, principals' teaching load differs.

Moreover, the administrative duties of headteachers are considerable and often crowd out pedagogical supervision and support activities. The administrative duties most frequently mentioned by Madhya Pradesh headteachers are enrolment, organizing examinations, collecting school and non-school data (as input to surveys of other sectors of development), drawing up and verifying calendars and work schedules, organizing school canteens, organizing sporting and cultural activities, and routine administration. Of course, the burden of these duties varies as a function of school size. It is especially in urban zones, where the schools are largest, that the time devoted to these duties is greatest. According to the headteachers' own estimates, the average time varies from one fifth in the rural zones of Rewa and Rajnandgaon to more than four fifths in the urban zone of Indore (*Table IV.1*). In Zhejiang, principals spent on average about 40 per cent of their time on administrative duties, the figure being again higher for urban than for rural principals. Worth noting is that larger schools regularly have one or two vice-principals, a prefect of study, all of whom are teachers, and a bursar. In the sample of 24 schools, seven had one vice-principal, two had two vice-principals, ten had one prefect, three had two and eleven schools had a bursar. Smaller schools, mainly in rural areas, seldom had any of this administrative and pedagogical support staff.

A deeper analysis of the role of headteachers in Madhya Pradesh schools also brings out a crucial difference as to management mode between public and private schools. The private schools, and especially the unaided ones, are subject to very little control by the Ministry of Education, which considerably increases the power of their headteachers.

Table IV.1. Madhya Pradesh: Percentage of time devoted on average to administrative duties by headteachers (by their own estimation)

Location		*Average*	*Standard deviation*
Indore	N=12	88.7	14.9
Gwalior	N=12	43.7	18.8
Rajnandgaon	N=11	21.4	13.7
Rewa	N=12	21.1	3.8
Mandla	N=12	25.4	5.4

However, this does not mean that these headteachers do not have to answer for their actions, quite the contrary. Each of these schools is run by a Management Committee, that very closely monitors the functioning of the school and the performance of the headteacher. While the everyday administration is left up to the headteacher, important decisions about the functioning of the school are taken jointly by the Committee and the headteacher on the occasion of regular meetings and frequent discussions between the two parties. This system of close and continuous monitoring of school management is no doubt the main strength of private unaided schools. The situation of aided schools is not very different. Evidently, these schools must operate within the framework of Ministry of Education standards and regulations, and in this respect they are subject to the Ministry's academic supervision. Nevertheless, they do keep much autonomy as to management, which is once again in the hands of the headteacher, under the direct supervision of the Management Committee. In public schools, on the other hand, what the observations and interviews reveal does not correspond to what is generally thought of as rigorous and rigid control by the governmental authority. In some sense, public school headteachers and teachers have less to answer for to anyone other than their colleagues in private schools. This is largely due to the shortcomings of the control and supervision system set up by the Ministry, which is too distant to exercise effective control and which is not really taken seriously by headteachers (in fact, only half of them state that they regularly follow advice given by inspectors). Considering, in addition, that many public schools do not even have an officially appointed headteacher, it can be said that most of these schools are very much in a state of indifference and negligence. One can easily understand that these differences in management and control mechanisms have a direct influence on what happens in classrooms (teacher presence and punctuality, adherence to timetables and curricula, application of evaluation and disciplinary rules, etc.), and consequently on the performances of the different types of institutions (see *Chapter VI* on achievement).

Similar differences among different categories of schools were identified in Puebla. Generally speaking, the control of teachers by the headteacher and of the headteacher by management committees is tighter and closer in private schools than in public schools. At the same time, the parents of children in private schools belong to the better educated group of the population, and tend to put more questions to teachers about curricula, teaching methods, etc. as will be seen later on. All this contributes to creating a special style of administration and management in this category of school. The key is to determine under what conditions the positive aspects of this style could be applied to other schools, and in particular to rural schools, where the control of teachers leaves most to be desired.

In Zhejiang, school management and control is of a different nature. There was a time, particularly during the cultural revolution (1966-1976), when school leadership was the responsibility of the Party Secretary. Party members in the school constituted the School Party Committee, often chaired by the Secretary. The system has evolved since the mid-1980s, and although the Party structure still exists within the school, the administrative authority now lies with the principal. The reform has been quite successful in primary and secondary schools, where the Party's role has become one of "monitoring the effective implementation of party policies", which in reality means to help to solve personnel problems in schools.

In any event, in India (Madhya Pradesh), in China (Zhejiang) and in Mexico (Puebla), headteachers devote a great part of their time to organizational and administrative supervision duties. This is particularly true of large schools, be they private or public. The problem does not arise in the same way in small schools, because many headteachers are simultaneously responsible for a class of pupils, just like an ordinary teacher, so that the time they can devote to management work is limited in any event. What then happens to the pedagogical advice and stimulation role that all headteachers are meant to play within their schools?

There are essentially two mechanisms whereby a headteacher can have a pedagogical impact: visits to classes and meetings with teachers. Fairly large differences were noted among the four countries with respect to these two points. In Guinea, pedagogical visits by headteachers to classes seem to constitute a well-established practice. Excluding schools with one teacher, 85 per cent of teachers, on average across the six zones, state that such visits are frequent or even very frequent. Differences among zones are not pronounced, and neither are differences between schools where the headteacher teaches and those where he/she does not. An additional question about the number of visits received in the last year yields an average of six visits for the overall sample. Similarly, 70 per cent of interviewed teachers indicate that pedagogical meetings of teachers are held regularly, not to mention informal discussions among colleagues, which are also very frequent. It does seem that Guinea enjoys fairly intensive professional interaction among teachers, on the one hand, and between teachers and headteachers, on the other. As shall be seen later, these are precisely the forms of professional support that are most appreciated by teachers.

In Zhejiang, classroom observation is seen as a significant form of professional development among teachers. It is therefore part of a principal's normal duty. The frequency and intensity of such observations, however, vary according to different styles among principals. Among the 32 principals under study, those in the industrial rural and urban site spend much more time on classroom observation. Principals also regularly pay home visits to teachers. This is common practice in China as the principal, as the superior of the teacher, is responsible for all aspects of teachers' lives. Although this convention has changed substantially because of the introduction of the open economy, the general notion is still prevalent in the less developed regions or regions less open to the outside. All 32 principals spent some time visiting teachers' homes, the frequency ranging from 2 to 35 visits per semester. There is no general pattern between research sites. The amount of home visits a principal pays to his/her teachers seems to be a matter of school tradition or personal style rather than a local convention. In Zhejiang, principals engage in other forms of teacher support. Experienced principals often conduct demonstration lessons either as a model for younger teachers or for providing an opportunity for mutual comments. Most principals held such lessons in a large range of subject areas. It is also a common practice for principals to inspect student exercise books. On average, principals spent 15-20 per cent of their time on instructional leadership.

Visits by headteachers to classes in Madhya Pradesh and in Puebla are much less regular. Excluding schools with a single teacher, an average of more than 40 per cent of teachers in the five Madhya Pradesh zones state that they never or rarely receive a class visit by their headteacher, and 50 per cent that pedagogical meetings of teachers are held never or rarely; the corresponding figures in Puebla amount to 50 per cent for visits and 24 per cent for meetings. In addition, there are very distinct differences by zone. In Puebla, professional interaction between teachers and headteachers is particularly weak in the marginal urban zone, while in Madhya Pradesh it is very weak in the indigenous zone.

II. External pedagogical support for teachers

(i) Inspections

The outside support for teachers that first springs to mind is the support that should be provided by inspectors and/or pedagogical counsellors. Monitoring and improving the quality of education are the explicit responsibility of inspection units. The difficulties that these units experience in many countries are known but very poorly documented[2]. It was attempted in this project to gain a better knowledge of the intensity of pedagogical support received by teachers from inspectors. What is the frequency of their visits, what do they cover, and what do teachers think of them?

In Madhya Pradesh, one notes that in most cases (excluding private non-aided schools which are not supervised by the Ministry of Education) schools were visited at least once in the course of the year by supervisory units (*Table IV.2*). But there are marked differences from zone to zone. Five schools out of 12 in Mandla did not receive any visits at all, which is no doubt largely due to difficult access, but also to the fact that schools in this zone are administered by the Ministry of Tribal Development (although supervision is supposed to be provided by the Ministry of Education). Similarly, more than half the schools in Rewa did not receive more than one visit, or even had no visits at all. The situation changes in the developed rural zone, which has good transportation, and in the towns. Here the majority of schools received at least two visits.

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[2] Enough anecdotal evidence exists on inspectorates, but very little systematic research was undertaken. One example of a not very recent study is: R.F. Lyons; M.W. Pritchard (1976), the result of IIEP research carried out in six developing countries in the mid-1960s. A few more recent studies exist but they concern European countries, e.g. Hopes, C. (1992).

Table IV.2. Madhya Pradesh: Distribution of schools by number of inspection visits received in the last year (excluding private non-aided schools)

Number of visits	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
	N=8	N=8	N=11	N=12	N=12
None	0.0	0.0	0.0	8.4	41.6
One visit	50.0	37.5	9.1	50.0	25.0
Two visits	25.0	37.5	36.4	25.0	25.0
Three visits or more	25.0	25.0	54.5	16.6	8.4

The in-depth interviews with headteachers show that more than 80 per cent of these visits amounted to routine inspections of the school and its records. In several cases, the purpose of the visit was to supervise the organization of examinations or to decide on an expansion of facilities. Supervision of and pedagogical support for teachers seem rarely to appear on the agenda. Therefore it is not surprising that a good proportion of teachers in all zones state that the pedagogical support they receive from inspectors is minimal or non-existent. As can be seen from *Table IV.3* below, the percentages of negative opinions are rather higher in urban centres, despite the fact that visits by inspectors to schools are more frequent. But in a large urban institution, a school visit is not synonymous with a visit to classes, whereas these are often the same thing in small rural schools.

The same situation is found in Puebla: schools receiving at least three visits per year are a minority everywhere (approximately one school in three), except in the developed urban zone (eight schools in ten). With less than three visits per year, it is difficult to imagine supervision going beyond purely administrative control. Interviews with headteachers and teachers confirm, in fact, that visits are generally limited to verification of documents and to a discussion with the headteacher and teachers. Observation of what goes on in classrooms is exceptional, and contact with parents non-existent.

Table IV.3. Madhya Pradesh: Distribution of teachers by their opinion of the advantage gained from pedagogical support provided by inspectors (excluding private non-aided schools)

Pedagogical support received	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
None	46.7	52.9	22.7	20.0	41.7
A little	40.0	0.0	27.3	20.0	16.6
A lot	13.3	35.3	45.5	53.3	33.4
A great deal	0.0	11.8	4.5	6.7	8.3

It is not at all surprising that here again the majority of teachers, except in the indigenous zone, consider that they receive little or no support from supervisors. The percentages vary from 90 per cent in the developed rural zone down to 26 per cent in the indigenous zone.

In Guinea, on the other hand, supervision visits seem to be much more regular than in the other two countries. In this country school supervision in fact occurs at three different levels. When a teacher is assigned to a school, in all cases he comes, at the level of the prefecture of assignment, under the *Directeur Préfectoral de l'Education* (DPE – Prefecture Director of Education), who is responsible for all levels of education. The next level is that of the *Directeur Pédagogique de l'Enseignement Elémentaire* (DPEE– Pedagogical Director of Elementary Education), who oversees primary education in the prefecture. The third level is that of the *Directeur Pédagogique de la Sous-Préfecture* (DPSP – Sub-Prefecture Pedagogical Director), which is the level closest to the school.

It should first be noted that while DPSP visits are of course more numerous, those of the DPEE and DPE are not exceptional, especially in the urban and semi-urban zones. *Table IV.4* below gives an idea of the frequency of visits by all these three educational officers to the classrooms of interviewed teachers (and not just to the school as in the cases of Puebla and Madhya Pradesh).

Table IV.4. Guinea: Distribution of teachers by number of visits from the DPSP, DPEE and DPE to their classrooms in the course of the last year

Number of visits	Urban	Semi-urban	Dev. rural	Semi-dev. rural	Forest. rural	Marginal rural
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*
None	18.4	16.7	8.0	2.6	3.3	12.8
One or two	15.0	3.3	24.0	15.8	33.4	25.7
Three to six	31.7	3.3	44.0	42.2	53.3	38.5
More than six	34.9	76.7	24.0	39.4	10.0	23.0

One notes that the majority of teachers everywhere received at least three supervision visits per year to their classroom, and the proportion of those who received more than six visits is not negligible, especially in zones with easier access and closer to prefecture capitals, where the supervision units have their offices, namely Conakry, urban Kankan and rural Kankan.

As to the nature of these numerous visits, teachers as frequently mention pedagogical objectives (pedagogical advice and discussions, improving teaching methods, etc.), as purely administrative objectives (verifying enrolment, checking the application of the curriculum, paying out salaries, etc.). Not surprisingly, a good proportion of Guinean teachers, especially in rural zones, declare that they benefit greatly or very greatly from the pedagogical advice of their DPSP (*Figure IV.1*), even if, as will be seen later, they consider that this benefit is considerably less than what they derive from other less distant sources of support.

In Zhejiang, administrative supervision and pedagogical support are not tasks of one and the same person. The first is still a responsibility of a member of the local party leadership. Although there is a trend in China to separate the administration and party leadership, in local governments or local citizen committees, there was, at the time of the study, no clear distinction in terms of personnel between the administration and the party. Nine such local leaders, who were all in one way or another in charge of educational affairs in the locality, were interviewed.

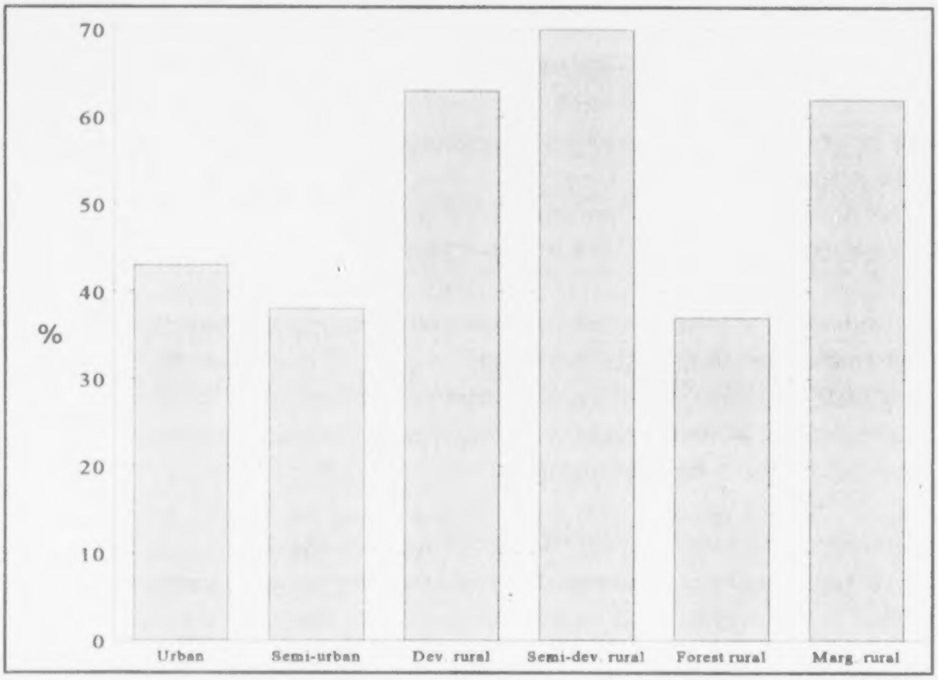

Figure IV.1. Guinea: percentage of teachers stating that they benefit very greatly from DPSP visits

School visits are the most common way by which leaders oversee education in their communities. There are usually two types of schools visits: 'staying in the site' and 'running across the surface'. 'Staying in the site' involves spending a substantial period of time in one school while 'running across the surface' entails doing a survey across a large number of schools by short visits to each school. Leaders at this level often adopt 'running across the surface' more than 'staying in the site', mainly because education is not their only area of responsibility. They also mention special meetings on education, which refer in many cases to meetings of the local education commission, of which the leader in charge was often either the chairman or the deputy chairman. The leader was also often invited to participate in or officiate at major educational gatherings such as the opening of a building, an exhibition, a conference, award ceremonies, sports meetings and so forth.

It is difficult to discern a clear pattern between sites. What is true for all sites, however, is that leaders show interest almost exclusively for administrative matters. Their five major areas of concern (fund-raising; school construction/equipment; political/ideological education; teachers; quality of education) include, it is true, elements which seem to transcend mere administration.

But, when leaders were asked: "What have you done to help schools solve problems?" and "What have you done to help teachers solve problems?", their answers reveal their administrative bias. They all worried about the repair of old and worn-out school buildings, known as 'elimination of dilapidated buildings'.

Teachers' problems include their accommodation, their retirement conditions, their incomes, their medical benefits and the job situation of their children and family members.

It can be argued that this should offer no cause for worry in Zhejiang, as in principle two additional systems exist whose task is more clearly pedagogical. Advisers (known as researchers in teaching, Jiaoyan Yuan), are designated to look after particular areas of teaching. They usually travel around the county to provide pedagogical assistance in schools and may assume a supervisory role.

More recently, China has established a system of inspectors. Inspectors at all levels (national, provincial, local) form a separate monitoring system, independent of the normal education departments. This system is still taking shape. However, there have been signs over the past few years indicating that the inspectors are expected to play a political as well as a professional role.

As a matter of fact, at the time of this research, advisers and inspectors as a professional support structure were largely absent in all sites, except the urban, as is shown in *Table IV.5*.

Table IV.5. Zhejiang: percentage of teachers participating in different channels of professional development

Channels of support	Urban	Ind. rural	Adv. rural	Dev. rural	Minority	Overall
	Hangzhou	*Shaoxing*	*Yuyao*	*Longquan*	*Jingning*	
Principal supervision	36.6	46.0	11.5	14.3	22.2	29.8
Peer discussion	29.3	62.2	38.5	71.4	44.4	48.1
Department meetings	65.9	62.2	19.2	35.7	33.3	50.4
Cross-township activities	46.3	43.2	23.1	28.6	22.2	35.9
Supervision by inspectors/ advisers	48.8	18.9	3.9	7.1	11.1	25.2
Classroom observation in other schools	41.5	43.2	15.4	35.7	22.2	35.1
Attending professional seminars/talks	22.0	24.3	30.8	28.6	22.2	25.2
Attending short courses	19.5	24.3	26.9	42.9	11.1	23.7
Self-study	56.1	54.1	61.5	71.4	55.6	57.3

(ii) In-service training

Another form of external pedagogical support for teachers is in-service training. Such training is often considered to be even more important than initial training, or at least to have a greater direct effect on the quality of the teacher's work in his/her classroom. Naturally, much depends on the type of training provided. Short training with direct emphasis on practice and organized in a participatory manner is no doubt more effective than longer but more theoretical training. What is the in-service training situation in the four cases studied?

It is quite different from one country to the next. The diagnosis in Madhya Pradesh is rather alarming. Before talking about in-service training, it should be recalled that close to 70 per cent of teachers in the five locations have received no initial training (*Figure IV.2*). The situation varies, of course, from zone to zone, but without it being necessarily worse in the rural than in the urban zones. What in fact happens is that teachers for government schools are periodically selected among candidates with at least 12 years' schooling (Higher Secondary Certificate), and assigned to vacant positions without previous training. They are subsequently admitted to a teacher's college for their teacher training. Unfortunately, the capacity of these colleges is insufficient, and many teachers prefer not to leave their assigned position, even if they lose some money as a result. The situation is worse in private schools, which are not supervised by the Ministry of Education, and generally have no professional training requirements whatsoever.

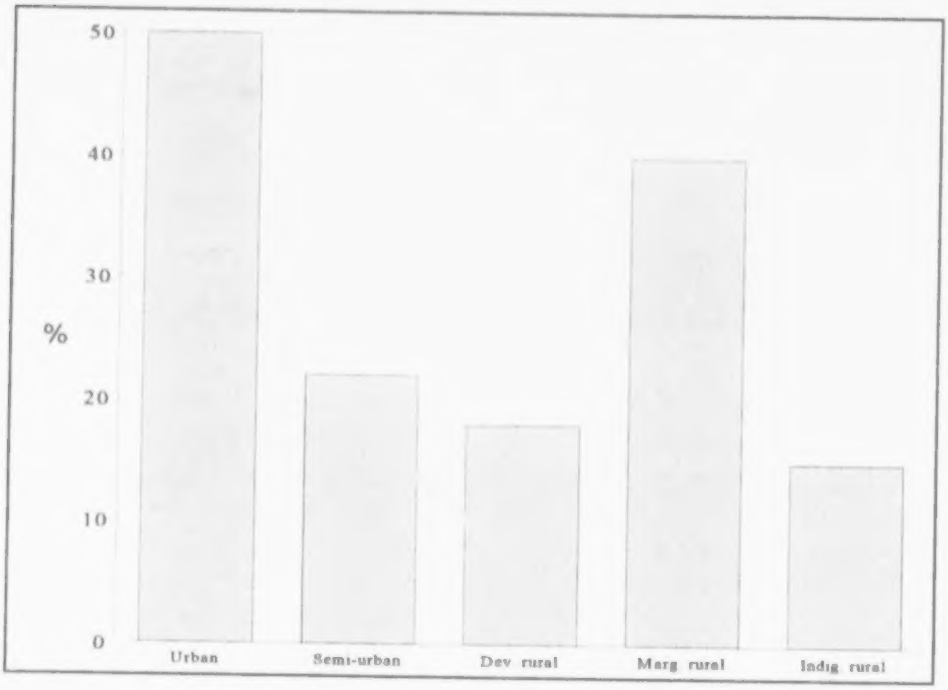

Figure IV.2. Madhya Pradesh: percentage of teachers having received initial pedagogical training

This rather general lack of initial training is compounded by an equally general lack of in-service training. Only 10 per cent of teachers claim to have received training of this type in the course of their career. A more in-depth discussion showed that, in all cases, this simply referred to orientation sessions organized by the NCERT (National Council of Educational Research and Training) in New Delhi, as part of a massive teacher-orientation campaign for the National Education Policy of 1986. In fact, there is no systematic teacher-training programme in Madhya Pradesh itself, and this task is left to small extension services of teacher colleges. These services have very meagre resources and can cover only a tiny number of teachers. At the time of the survey, however, District Institutes of Education and Training were in the process of being set up, as part of the National Programme for Strengthening Teacher Education, which should play an important role in teacher training in the future.

As for Puebla, it should first be noted that a good number of teachers continue their formal post-secondary studies, with a view to obtaining a degree to teach at the secondary level, or to improve their qualifications as primary teachers and hence to have the right to a better salary, or to pursue studies having nothing to do with teaching, probably in the hope of changing profession (the latter category is relatively large in urban zones) (*Figure IV.3*).

The proportion of teachers who pursue such studies, whether in regular institutions of higher education or through distance education programmes, is relatively high. One finds the highest percentage (36 per cent) in the marginal urban zone, where access to post-secondary studies is easiest. In the privileged urban zone, where teachers are the most qualified, there seems to be much less of a need to pursue formal studies. The percentages elsewhere are not negligible, ranging from 15 per cent in the marginal rural zone up to 23 per cent in the developed rural zone. One can easily imagine that this involvement in long-term studies (three to six years) by a good part of the teaching staff is another factor with a negative impact on teacher availability for teaching duties, and perhaps also for professional in-service courses as such.

There are in fact two types of in-service courses, namely the so-called 'cursos escalafonarios' (that is, courses giving the right to points that allow for promotion to the next level), and ordinary refresher courses, usually organized in connection with the introduction of minor or major pedagogical innovations. These two types of courses are rather brief (maximum 30 hours and usually less than 20 hours), and are run in most cases by the General Directorate for professional improvement of teaching staff. For each of these two types of programmes and in all zones, except in the indigenous zone, less than half of teachers have participated over the last two years. For the so-called courses by level, the average participation across all zones is 35 per cent, and for the other courses it is 39 per cent. These figures show that a real teacher-training effort is underway in Puebla. However, considering that such training rarely exceeds 20 to 30 hours, one can reasonably ask whether it is sufficient to play a significant role in the improvement of the quality of basic education. In any event, the majority of teachers consider that these courses are useful for them, even though they do express criticism of the way the programmes are organized, and especially of the overly conventional approach of the training methods.

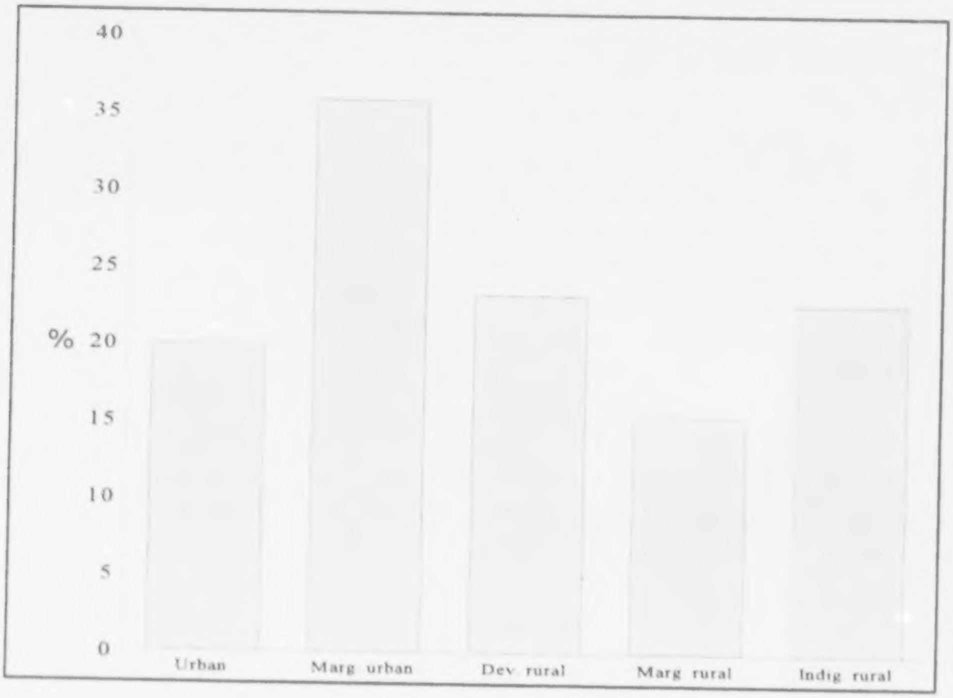

Figure IV.3. Puebla: percentage of teachers pursuing formal studies

In-service training seems to be more developed in Guinea (*Figure IV.4*). The percentage of teachers having attended one or several training courses of at least one week in the course of the last five years varies from 92.1 per cent in Rural Kankan (semi-developed rural) down to 56.5 per cent in Labé (marginal rural), with an average for the six zones of 74.3 per cent. It should be stressed that some of these courses are rather long, for the average duration over all zones is more than eight weeks.

In most cases the nature of the training provided is pedagogical, but there are also specialized courses by discipline and for language training.

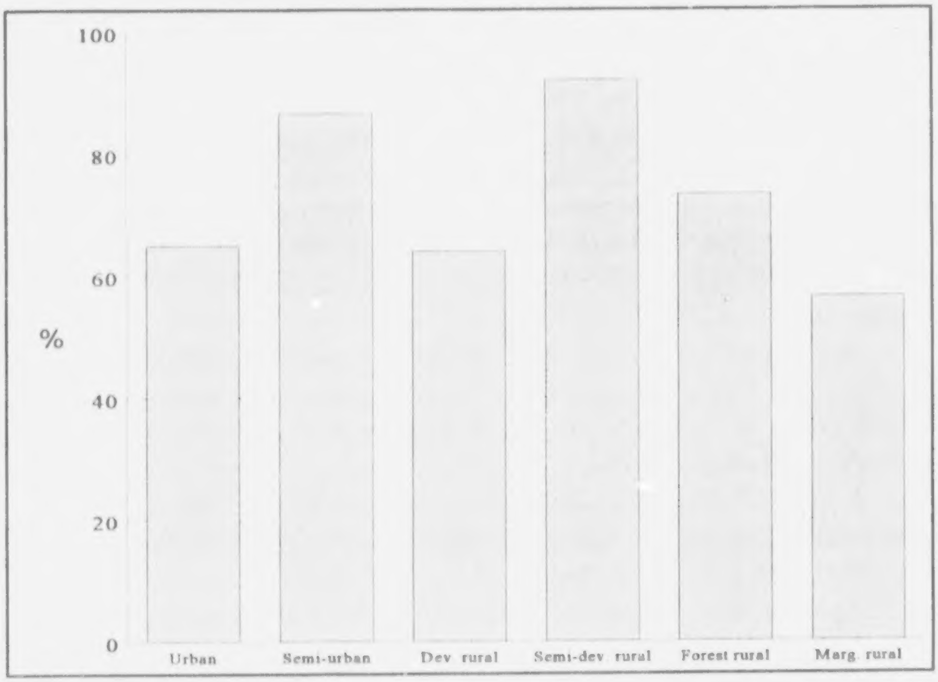

Figure IV.4. Guinea: percentage of teachers having attended in-service training courses of at least one week between 1985 and 1989

Many teachers have also participated in shorter training (that is, with a duration of less than one week). The average number of these training sessions per teacher in recent years varies from 4 in Nzérékoré (forest rural) to 1.6 in urban Kankan (semi-urban). As in the case of longer courses, differences among zones do not seem to be related to the zone's level of development. Rural zones are not particularly disadvantaged in comparison to urban zones. In all the zones, the vast majority of teachers (eight in ten on average) consider that training courses have a real impact on their way of teaching, and all would like to attend more courses.

In Zhejiang, maybe more than elsewhere, a variety of in-service teacher training channels exist. At the county level, the in-service teacher training school co-ordinates in-service professional development activities. Activities in these schools include in-service courses for retraining and upgrading, seminars to disseminate new curriculum, new teaching approaches and new equipment. Some in-service teacher training schools may also conduct distance learning courses by correspondence. Others provide tutorial facilities for teachers attending distance learning courses by television colleges or for self-study examinations. At the township level, the centre primary school (and sometimes the experimental school) plays the role of a centre for teachers' professional development which serves the entire township. Often, the centre school is equipped with teachers of better qualifications and better experience. They conduct regular activities (often at monthly or weekly intervals) where teachers from all schools in the township attend. At the school level, professional development is often done through the leadership of the principal and peer interaction through teaching departments.

The study identified nine different channels of professional development, including supervision by principals and advisers/inspectors. Teachers were asked about their participation. The responses are indicated in *Table IV.5* (page 163).

A number of conclusions can be drawn from this table. Self-study is the most frequently employed channel for professional development, notwithstanding the existence of more formal channels. Departmental meetings and peer discussions, other rather informal strategies, were in some places identified as the most frequently used channels. The more formal channels were least prevalent: supervision by inspection/advisers and attending professional seminars and short courses. Teachers in urban or near urban schools have a greater variety of channels for professional development, indicated by the high percentage of responses to most items.

Especially inter-school activities (e.g. cross-school observations) are more frequently found in the more developed areas, presumably because of the high density of schools. In rural areas, there are hardly two schools in the same vicinity.

(iii) *Opinions of teachers about the different sources of professional support*

Inspection and in-service training are only two forms of professional support, perhaps those that come most easily to mind when one tackles the subject, but not the only ones as was shown in Zhejiang. Therefore, teachers' opinions were sought about a broader range of possible sources of pedagogical support and improvement, by asking them what benefit for their teaching they derived from each of them.

The answers in the case of Guinea are presented in *Table IV.6* below.

Table IV.6 Guinea: Percentages of teachers with a positive opinion of the benefit they derive from different sources of professional support

	Urban *Conakry*	Semi urban *Urban Kankan*	Developed rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forest. rural *Nzérékoré*	Margin. rural *Rural Labé*	Total
1. Personal reading	1 (91.7)	1 (96.7)	1 (88.0)	2 (89.4)	1 (96.7)	2 84.6	1 (91.2)
2. Discussions with colleagues	3 (83.3)	4 (76.7)	3 (72.0)	5 (79.0)	3 (66.7)	3 (82.0	2 (77.6)
3. Pedagogical meetings of teachers	4 (76.6	2 (83.3)	4 (64.0)	4 (81.6)	2 (70.0)	1 (87.1)	3 (77.1)
4. Support from headteacher	2 (85.0)	4 (76.7)	2 (76.0)	3 (84.2)	4 (56.7)	7 (61.5)	4 (73.3)
5. Model lessons	5 (71.7)	2 (83.3)	7 (32.0)	1 (92.1)	6 (50.0)	4 (66.7)	5 (65.9)
6. In-service courses	6 (65.0)	6 (70.0)	6 (48.0)	7 (60.6)	4 (56.7)	4 (66.7)	6 (61.2)
7. DPSP support	8 (43.3)	9 (36.7)	4 (64.0)	6 (71.0)	7 (36.7)	8 (61.6)	7 (52.2)
8. DPEE support	7 (50.0)	7 (66.7)	7 32.0)	8 (55.3)	9 (23.0)	6 (64.1)	8 (48.5)
9. DPE support	9 (38.3)	8 (50.0)	9 (28.0)	9 (47.3)	8 (23.3)	9 (51.3)	9 (39.7)
10. Other	10 (1.7)	10 (3.3)	10 (4.0)	10 (2.6)	10 (0.0)	10 (2.6)	10 (2.3)

The different types of support are ranked in descending order, starting with the one that received the greatest number of positive responses (great or very great benefit) from all zones, with an indication of the relative position of the same type of response for each individual zone.

This table shows that the most highly appreciated sources of training and improvement are those that are closest to the teacher. In the top places we find personal reading, formal or informal exchanges with colleagues and interaction with the headteacher. Other questions put during interviews confirm this very positive assessment of exchanges with colleagues (most teachers turn first to colleagues when they have a problem to solve). Together with books and the headteacher, colleagues constitute the most easily accessible and hence the most reliable sources of self-improvement. Model lessons and training courses are also highly appreciated, but they are less frequent and rank second in the assessment of Guinean teachers. As for visits by various supervisory officers (and despite their relatively high frequency in Guinea as compared to other countries), the support they offer is still too sporadic and no doubt too formal to be really effective. With just a few exceptions, the assessment by teachers in this respect does not vary much from zone to zone.

Differences between zones are somewhat more significant in Zhejiang, which is not surprising, as the prevalence of support channels also differs widely between sites. Overall, the top three channels identified as most effective were short courses (22 per cent), self-study (21 per cent) and peer discussion (12 per cent). This pattern applies to all the rural areas, but not to the city of Hangzhou, where cross-school observation, advisers and short courses were seen as most effective.

Further interpretation shows that the channels seen as effective in rural areas are school-based or individual-based. In other words, teachers and schools are very much left to their own devices in terms of professional development. In the city, between school interactions and systemic channels (e.g. advisers) are more active.

The survey results in Madhya Pradesh and Puebla are along the same lines as those in Guinea and in rural Zhejiang. Each time teachers consider that the most valuable support comes from personal reading and professional exchanges with the headteacher and with colleagues (even if such exchanges are much less intense than in Guinea and Zhejiang, as has been seen). Other sources of support, and especially inspection visits, come far behind.

III. Relations with parents

With the exception of Zhejiang, relations between teachers and communities are not as close as one might think *a priori*. One of the reasons for this is that teachers often do not live in the places where they teach. But it is not just a question of physical distance, for there is also a serious problem of socio-cultural distance. As seen previously, parents do not know the school very well, especially in rural zones, and even though they basically trust the teachers, they do not seek participation. As for teachers, they generally have a sense of being rather well respected, but at the same time they have the impression of not receiving the necessary support from parents.

To take the case of Guinea, a first observation is that many teachers do not personally know their pupils' parents (*Figure IV.5*). This may be understandable in large towns, where both teachers and pupils may live far from the school, and where schools are large and hence impersonal by definition. But it is certainly more surprising in rural zones, where obstacles to personal contact are *a priori* less prohibitive, and where many teachers follow the same group of pupils for several years. Yet it has to be accepted that even in these zones, a good proportion of teachers (from half in Kindia to one quarter in Rural Kankan) admit that they do not personally know at least half their pupils' parents. As *Figure IV.5* shows, in the two urban centres these proportions climb to eight tenths.

But do teachers make a genuine effort to know the parents and to associate them with the functioning of the school?

Still in the case of Guinea, one notes that visits to parents are far from being the rule. The percentage of teachers stating they never or rarely pay visits to pupils' homes varies from 90 per cent in Conakry to less than 30 per cent in Nzérékoré (*Table IV.7*). Such visits are generally less frequent in town than in the country, except in Labé, where the habitat is very dispersed and where communities are rather inward looking.

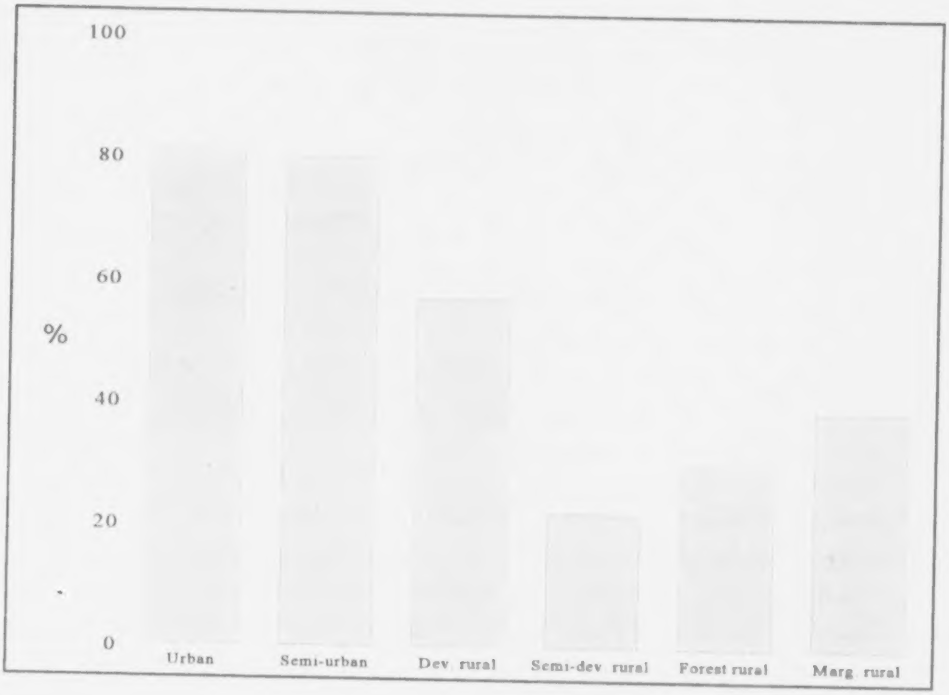

Figure IV.5. Guinea: proportion of teachers stating that they know less than half their pupils' parents

Table IV.7. Guinea: percentage of teachers stating that they never or rarely visit their pupils' parents

	Urban	Semi-urban	Devel. rural	Semi-dev. rural	Forest. rural	Marginal rural
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*
Teachers	90.0	50.0	36.0	31.6	26.7	57.9

As for meetings of parents organized at the school, they are not very regular either (*Table IV.8*). In the zone of Conakry, more than 60 per cent of teachers claim that there is at most one meeting per year, and the corresponding figure in Urban Kankan is 40 per cent. The picture is more variable in rural zones, but meetings do seem to be generally more frequent (rarely more than three per year) than in towns, except perhaps in Kindia.

Table IV.8. Guinea: distribution of teachers by the number of meetings organized for parents

Number of meetings	Urban	Semi-Urban	Devel. Rural	Semi-dev. Rural	Forest. Rural	Marginal Rural
	Conakry	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*
Never	15.0	6.7	32.0	5.3	3.3	10.8
Once per year	48.3	33.3	4.0	15.8	3.3	10.8
2-3 times a year	6.7	40.0	56.0	52.6	33.4	45.9
More than 3 times		20.0	8.0	26.3	60.0	32.5

The main subjects raised at such meetings are, in order: making parents aware of discipline problems and of the need for family support; problems related to fees and school attendance; simply announcing school results; and, maintenance and restoration of school facilities.

Looking at this list one is struck by the high priority given, in all zones, to matters that are the responsibility of families, and by the absence of more positive themes such as informing parents about what is happening in the class, the curriculum objectives, etc. One has the distinct impression that parent meetings, when they do take place, are essentially used to remind parents of their various responsibilities, of the need to supervise their children, to pay fees, to repair the school, etc. This confirms a more general conclusion that emerged from the in-depth interviews, namely that teachers feel they are not sufficiently supported by families. Their natural reaction seems to be to stress family duties, rather than trying to involve them in the search for solutions.

The situation in Madhya Pradesh is once again very similar to that of Guinea (*Table IV.9*). Teachers in the town of Indore know their pupils' parents very little: less than 5 per cent of teachers claim they know almost all the parents, while almost 50 per cent state they know very few or even none. The situation improves systematically as one moves from urban centres towards the most remote rural zones. In Mandla, where schools are small and where teachers live in the community, 85 per cent know just about all the parents.

Table IV.9. Madhya Pradesh: distribution of teachers by the proportion of parents they know

	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Almost all	3.3	32.3	50.0	60.0	84.6
Some	50.0	51.6	40.9	40.0	7.7
Very few	40.0	16.1	9.1	-	7.7
None	6.7	-	-	-	-

Nevertheless, one must draw attention to an essential difference between rural and urban zones as to the nature of these contacts. In rural zones they are usually informal meetings outside the school, whereas in town the meetings are more formal, and take place most of the time at the school. A more detailed analysis shows that only private school teachers mention that they meet parents at regular intervals. In fact, in these schools the periodic communication of test results is a special occasion for parents to meet with the teachers of their children.

As to the subjects that are raised during the interaction between parents and teachers, they relate mainly to the child's difficulties at school and to problems of absenteeism. Except in Rewa, relatively few teachers state that they discuss school curricula and what is done in the classroom.

As in Guinea then, exchanges pertain especially to what teachers expect of parents, and very little to the more general issue of the school's development and organization. Once again, and even though teachers complain they do not receive enough support from the community, they hardly try to use contacts with parents to involve them more in improving the school's functioning.

Even though more than half of headteachers claim they have a Parent/Teacher Association, or even a School Development Committee, a more probing discussion reveals that these bodies are not very active, and hardly have any real influence on the management of the institution.

Relations between parents and teachers seem to be more frequent in Puebla (*Figure IV.6*). In all the zones, teachers who admit they do not know at least half their pupils' parents are very much in the minority.

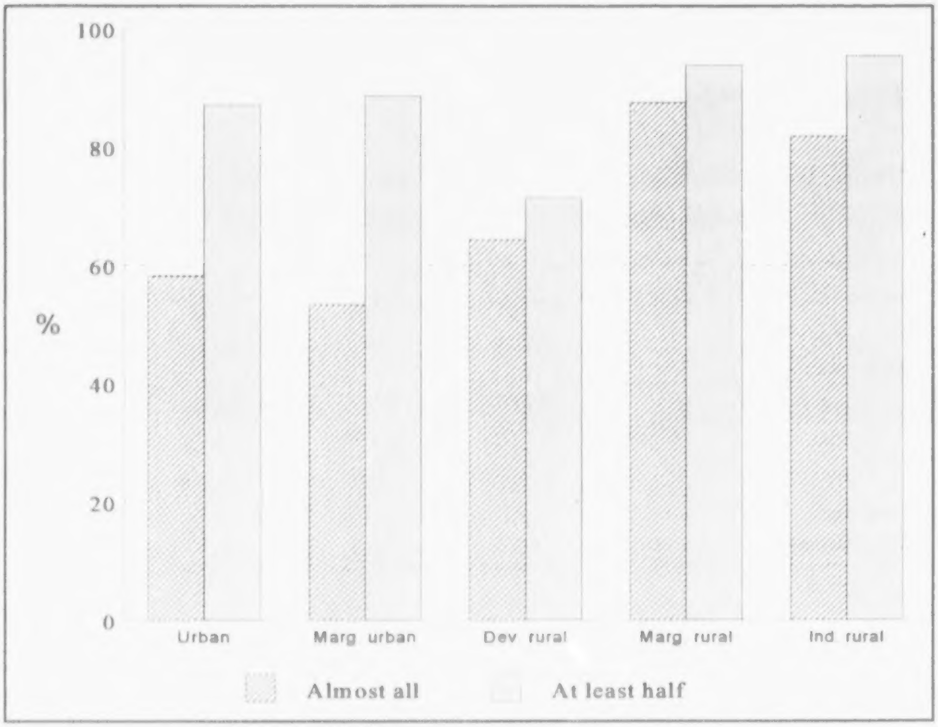

Figure IV.6. Puebla: percentage of teachers who claim they know at least half or almost all their pupils' parents

There is a significant difference between rural and urban zones, in that the proportion of teachers who state they know just about all the parents varies from a solid one half in the urban zones to more than four fifths in the marginal and indigenous rural zones.

Teachers everywhere seem to call regular meetings with parents at school, a practice that is more systematic in rural than in urban zones (*Table IV.10*).

An analysis of the subjects discussed at such meetings shows that in the urban and developed rural zones, matters related to education and learning by the children are discussed more frequently, while in the other zones there is more emphasis on administrative and material issues (contributions by parents, organization of celebrations). Thus the difference between the rural and urban environments is not just one of intensity of school-community relations, but also a difference in the nature of these relations. Relations are less frequent in urban zones, but they pertain much more to pedagogical aspects.

This difference in the type of relations is confirmed by a series of specific questions put to headteachers about the material participation of parents in the life of the school.

Table IV.10. Puebla: percentage of teachers who claim they call meetings with pupils' parents more than thrice a year

Frequency of such meetings	Urban	Margin. rrban	Develop. rural	Marginal rural	Indigenous pop.
	Puebla	*Libertad Tecola*	*Zacatlán*	*Ixtaca-maxtitlán*	*Cuetzalan*
More than three times	48.4	66.7	71.4	87.5	81.8

The answers clearly show that it is rural communities that contribute most in material and monetary terms to the construction and maintenance of schools. In these cases participation is often synonymous with providing financial and material resources, and parents are hardly involved in the essential objective, namely the education of their children.

As mentioned earlier, the situation in Zhejiang, China, is quite different from that prevailing in the other three countries. Here home visits by teachers are considered to be a routine activity. The class teacher is officially expected to visit the home of each student in his class at least twice a year (once per term). Indeed the data collected show that on average teachers were spending approximately three hours per week on home visits. The data also indicated that 30 out of the 32 principals interviewed, organized regular parents' meetings. The frequency varied from one to eight times per semester, the latter being rather unusual. There is therefore no doubt that in the case of Zhejiang contacts between the teachers and the parents are much more intensive than they are elsewhere.

IV. Suggestions by teachers for improving their work in the classroom

Towards the end of each teacher interview in Guinea, the investigator invited the interviewee to make concrete suggestions for improving his work in the classroom. The responses collected this way are not the fruit of long and mature reflection. Rather, they are spontaneous reactions that primarily reveal what concerns the teachers, the shortcomings they experience and their most pressing needs.

As shown in *Table IV.11* below, in Guinea's case by far the most frequent suggestion, in all zones, is that teaching materials and pedagogical documents be sent to them regularly. This suggestion is very consistent with the observation made elsewhere that Guinean teachers generally consider that personal reading is their most valuable professional input. Knowing moreover that 80 per cent of interviewed teachers claim they never or rarely receive such documentation, this suggestion sounds like a cry of distress. It is also symptomatic of the sense of isolation that was observed among teachers in rural zones.

The other suggestions are relatively dispersed, except the request for more in-service training, which comes to the fore in all zones. One does find the salary issue, but not systematically everywhere. It is interesting to note the low ranking of proposals related to strengthening links with the community, which are in fact limited to increasing parent awareness.

As noted earlier, Guinean teachers do not spontaneously perceive parents as partners in the management of schools, but rather as sources of difficulties. Finally, certain suggestions do not appear in the table because they do not correspond to an immediate need. This is no doubt true of everything having to do with reinforcing exchanges among colleagues and with the headteacher, for these are already well developed, as has been seen.

Table IV.11. Guinea: Ranking of suggestions made by teachers about measures that could help them to improve their work in the classroom

	Urban *Conakry*	Semi-urban *Urban Kankan*	Dev. rural *Rural Kindia*	Semi-dev. *Rural Kankan*	Forest. rural *Rural Nzérékoré*	Margin. rural *Rural Labé*	Total
1. Sending educational documentation	1	1	1	1	1	1	1 (43.2)
2. In-service training	2	6	2	3	3	4	2 (13.1)
3. Better living conditions	4	4	-	2	-	3	3 (11.3)
4. More supervisory visits	3	2	5	5	-	2	4 (9.5)
5. Sending textbooks	8	6	3	-	2	7	5 (5.4)
6. Better working conditions	6	2	-	6	3	5	6 (4.9)
7. Making parents more aware	6	6	-	4	-	5	7 (4.9)
8. Fewer pupils per class	4	5	-	-	3	-	8 (4,5)
9. More model lessons	9	9	3	-	6	-	9 (3,2)

V. Conclusions

This chapter has focused on human interaction at the school level. It has investigated the nature of the relationships among teachers, between the teachers and the head-teacher, between teachers and their supervisory staff out of school, and finally between teachers and parents. As such, it is an expression of a trend in research on education quality, which increasingly gives attention to those relationships and in particular to the role of headteachers. This trend is present in both developed and developing countries. In developed countries, it is related to the growth of school-based management, which increases the responsibilities of headteachers. In developing countries, these responsibilities have also expanded, but in many instances more as a result of the inefficiency and insufficiency of the external support and control structures, rather than as part of a planned strategy.

Whatever the case may be, there is little doubt that principals have an increasingly important role to play. The research shows however that few school heads are able to take up this challenge. Various factors can explain this. In general, their promotion to headteacher is not made on the basis of their leadership or management skills, but is the result of a purely administrative process. Furthermore, few heads have received specific training in administration, management or pedagogical supervision. Finally, many of them maintain a heavy teaching load. With regard to the two last factors, rural areas are worse off than urban. In Puebla, for instance, only two headteachers in ten in the marginal rural zone had received special training, against eight in ten in the privileged urban zone. In Madhya Pradesh, the proportion of heads who are at the same time class teachers, varies from three in ten in the urban zone up to ten in ten in the indigenous zone. While it can be positive that a headteacher continues to do some teaching, it does not make it easier for somebody without training to have to combine these two tasks. In urban zones, where schools are larger, heads are faced with the problem of an overload of purely administrative tasks. But, at times, and we have seen this to be the case in Zhejiang, they are assisted by vice-principals and by bursars.

The result seems to be that headteachers generally devote themselves more to administration than to pedagogy, even if there are noticeable differences between the countries. In Guinea and Zhejiang, for example, headteachers manifestly invest more in their pedagogical role through class visits and organizing staff meetings than in Puebla or Madhya Pradesh. Nevertheless, even in those situations the administrative responsibilities remaining are taking up a fair amount of their time (40 per cent average in Zhejiang). But what is meant by administration? On the one hand, there are general organizational tasks (enrolment, organization of examinations, supervision of timetables, etc.), and, on the other hand, control and supervision tasks (of infrastructure, of pupils and of the staff). While headteachers more or less fulfil the former responsibilities, this is not always true of the latter ones, and especially not of (administrative) supervision of staff.

It is precisely at this level that one can note the difference between private and public schools in Madhya Pradesh. In the private schools, headteachers manage to ensure the regular presence of teachers, that timetables are followed, work plans prepared, etc. because they have genuine authority over teachers, and are themselves supported and/or controlled by a management committee. Public school headteachers clearly lack the necessary authority and support to ensure respect for minimal rules of good functioning of an educational institution. This is the key problem that will have to be solved to instil meaning in any additional efforts aimed at getting the headteacher to play the role of pedagogical counsellor and leader.

All this calls for some general reflection about the system of school control, and about the effective responsibilities of headteachers, inspectors and local communities. The examination of inspection services shows a fairly similar situation in Madhya Pradesh, Puebla and Zhejiang. Inspectors are mainly present in the urban areas and become less visible the more the school is remote. In the urban zones of Madhya Pradesh all 16 schools in the sample received at least one visit by an inspector over the last year, against only seven out of twelve schools in the indigenous rural area. However, in all three countries, teachers in rural areas appreciate inspectors' visits more than in urban areas, probably because in the smaller rural schools inspectors do not need to spend their whole visit on administrative matters and have thus more opportunity to offer pedagogical support. Unfortunately, their visits to rural areas are often more of an exception than the rule. In Guinea, the situation is less distressing. Most schools receive fairly regular inspection visits, in the rural areas as much as, if not more than in the urban. About half of all teachers believe they benefit greatly from these visits. But on the whole it is probably correct to conclude that inspectors' field visits are usually too sporadic and too brief for them to be able to offer headteachers the support they need in the everyday management of their institution.

It is clear, therefore, that an enhancement of inspection units is indispensable, for they have suffered much from the general, pervasive crisis. They have a capital role to play in steering programmes to improve the quality of education, and they are indispensable intermediaries between the central authority and schools, even if it remains somewhat doubtful that they can exert a direct influence on the daily functioning of schools.

Support by headteachers and inspectors are only two out of a longer list of possible sources of professional support to teachers. One other source, in-service training, was looked at in more detail. The situation varies considerably from one country to the next. In Madhya Pradesh, only some 10 per cent of teachers followed in-service training during the course of their career, and this generally refers to short orientation sessions. In Puebla, many more teachers are engaged in some form of further study, but for some this is mainly to improve their chances of leaving the teaching profession. In Zhejiang, about a quarter of teachers regularly attend short courses. The most favourable situation exists in Guinea, where indeed three out of four teachers have followed at least one fairly long training course during the last five years. Arguably more important to teachers than in-service training, is to offer them the possibility to improve themselves through personal reading, a point stressed in particular by the Guinean teachers, and through contacts with colleagues. Those possibilities are less frequent in the more isolated schools, which count few teachers.

Finally, the community was examined. From the research one can draw the following general conclusions. Except in Zhejiang, the distance between school and community is rather large. One of the reasons, identified in the previous chapter, is that teachers often live outside the locations where they teach. But the distance is manifestly not just physical. In general, teachers have but little contact with the parents of their pupils, even in rural areas. They do not feel supported by the parents even if they do feel generally well respected. Whenever meetings are being organized at school, the objective seems to be more to lecture parents about their various duties, their responsibility to control their children and to pay school fees, etc. rather than to inform them about what is going on in school and to involve them in the improvement of its functioning. In other words, teachers tend to see parents as part of the problem not of the solution. This cultural gap between teachers and parents is probably the main obstacle for establishing closer linkages between the schools and the communities and for associating parents with the school management. Nevertheless, one cannot ignore the fact that pupils' parents and the community as a whole, are the partners most directly concerned with the quality of schools. This is why, despite the difficulties, it is indispensable to bring schools and parents closer together. This seems to be an effective way to improve the functioning of schools, as shown by the cases of private schools in Madhya Pradesh and Puebla, but also by efforts undertaken in the rural zones of various other countries.

Chapter V

The teaching process

How do teachers teach? Do they assign homework? Do they prepare their lessons? Do they follow a precise work plan? Do they have their pupils participate actively in class? Do they test pupil progress regularly? These questions and many others are at the heart of what constitutes the quality of the act of teaching[1]. They are essential for comparing the situation of schools in different places, and for trying to draw a correlation between teacher effectiveness and pupils' results.

However, the answers to these questions are hardly to be found in ministries of education, nor even in research institutes, and for a good reason: it is not easy to collect them. An attempt has been made, as part of this project, to gain some insight into what happens in classrooms by combining two different approaches, namely a survey on teachers about their way of teaching, and systematic observation of a limited number of classes in action. The class observations, carried out in Puebla and Madhya Pradesh, were supplemented by log books kept by investigators during their work in the field.

These various approaches have their limitations. There is often a big difference between what teachers say they do and what they actually do. As for observation, even if well structured, it gives only a partial and incomplete picture of what actually happens in the class. It puts the teacher and the pupils in the special situation of being observed, and it always reflects some part of the observer's value judgements. Log books are first and foremost a description of the investigators' day-to-day impressions on the occasion of their visits to schools.

Nevertheless, the data collected in this way do allow, through a comparison of the different sources of information, for several interesting conclusions to be drawn about the quality of the pedagogical process. It was possible, in fact, to identify a number of factors that influence this quality, and that often make the difference between well-performing and poor-performing schools, as will be seen in the last chapter on results.

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[1] See Anderson, L.W. (1991). *Increasing teacher effectiveness.*

I. The teacher's presence in the classroom

The first factor is the teacher's presence in the classroom. This presence is one of the factors that determine the time available to pupils for learning. Without the teacher there is no teaching. Even though it is known that chronic absenteeism of teachers has become a real problem in many countries, there are very few data with which to measure its relative significance[2]. As part of the surveys, in Guinea and Mexico, Puebla, each teacher was asked how many days he had been absent over a given period. No such data were collected in the case of India, Madhya Pradesh or China, Zhejiang.

In the State of Puebla, the proportion of teachers saying they had been absent in the course of the month preceding the survey is an average of 43 per cent for the five zones. But the variations by zone are considerable. In the urban zone, only one-third of teachers say they had been absent, against half in the marginal rural zone. The average number of absent days per teacher as a whole is also markedly greater in rural zones, at one to two days per month, against less than one day in town (see *Table V.1*).

As to the reasons explaining these absences, the distribution of averages for the five zones is as follows:

	%
• administrative reasons:	31.3
• personal or family problems:	21.0
• special authorizations:	18.6
• personal illness:	18.6
• other:	10.5

It was noted that administrative reasons (for example, for matters pertaining to salaries or transfers) and special authorizations (for example, to participate in trade union meetings or training courses) together constitute the most important cause of teacher absence in Puebla.

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[2] For an overview of the different issues relating to teacher absenteeism, see: Chapman, D. W. (1994).

Table V.1. Puebla: Percentage of teachers having been absent during the month preceding the survey and average number of absent days per teacher for the teaching staff as a whole

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Devel. rural *Zacatlán*	Marginal rural *Ixtacamaxtitlan*	Indigenous population *Cuetzalan*
Percentage of teachers having been absent	25.0	39.5	37.8	53.3	54.8
Average number of absent days	0.5	0.6	0.7	1.1	1.3

The problem of teacher absence is disquieting in Guinea as well. As on average for the six zones, more than 70 per cent of teachers state they were absent at least once during the two months preceding the survey. One also finds the same variations by zone. In the capital city of Conakry, almost 50 per cent of teachers had been absent, while in the forested zone of Nzérékoré the corresponding figure was close to 90 per cent; the average number of absent days also varied from a low of 2.8 in Conakry to a high of 9.3 in Rural Kankan (see *Table V.2*).

Table V.2. Guinea: Percentage of teachers having been absent in the course of the two months preceding the survey and average number of absent days per teacher for the teaching staff as a whole

	Urban *Conakry*	Semi-urban *Urban Kankan*	Devel. rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
Percentage of teachers having been absent	46.7	83.3	76.0	81.6	86.7	66.7
Average number of absent days	2.8	3.5	3.8	9.3	4.6	4.1

The reasons for the absences are quite different from those given in Puebla. It is first a question of personal illness (60 per cent on average), followed by family reasons (20 per cent). Administrative reasons seem to be much less cited in this case:

	%
• personal illness:	62.1
• family problems:	21.8
• administrative reasons:	10.8
• seminars and meetings:	5.3

The information from the Zhejiang case study was obtained through an analysis of the average teacher attendance rates from 1987 to 1990 rather than through interviews. As such, the data are not easily comparable to those on Puebla and Guinea. But there is no doubt that teacher absenteeism is much less of a problem in Zhejiang than in the other regions studied. Indeed, all schools but two had an attendance rate of over 95 per cent. The two exceptions, schools in the advanced rural site, still had rates of around 90 per cent. Such absenteeism is indeed considered by parents and teachers alike as intolerable and, as seen in a previous chapter, teachers are under a more regular control than in the other countries.

Taking into consideration the fact that teachers in Puebla and Guinea no doubt tend to underestimate the frequency of their absences, it can be asserted that absenteeism considerably reduces the learning time of pupils, especially in rural zones. To this one must add that, for the reasons explained in the preceding chapter, and in particular because teachers have other occupations, live far from the school, and that there is not much supervision especially in rural zones, they tend to come to school late and to leave early. It is not at all surprising that these same teachers do not manage to cover the entire curriculum, or are forced to do so hastily. Moreover, the combined effect of irregularity of teacher presence and of the presence of certain pupils cannot but have a disastrous impact on the learning rhythm of the class as a whole.

II. The teacher's level of competence

A second factor that directly affects the quality of teaching is the teacher's level of competence. One might think *a priori* that there should not be major problems in this regard at the primary level, given that most teachers in the countries studied have a reasonable level of education (10 to 12 years of school). But the formal level of education is not necessarily synonymous with competence. Classroom observations in the different countries show that certain teachers have an insufficient mastery of the subject matter they teach. In addition many of them lack the pedagogical know-how required for good presentation of the material. This is particularly true in Madhya Pradesh, where most teachers have not received any specific professional training. But the same problem has also been identified in the other countries.

In so far as Madhya Pradesh is concerned, *Table V.3* gives an idea of the clarity of presentations made by teachers, as evaluated by the researchers during classroom observations. It is easy to see that there is a real problem in all the zones, and that it is particularly acute in the two least developed rural zones.

Table V.3. Madhya Pradesh: Distribution of observed classes by clarity of presentations made by the teacher

	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Good	37.9	36.3	36.2	0.0	0.0
Average	41.4	50.0	50.2	75.7	27.3
Poor	20.7	14.7	13.6	24.3	72.7

Differences between urban and rural zones can also be found in Zhejiang, where however, on the whole, the situation seems to be much better. There, teaching ability was assessed in relation to six aspects, on a 5-point scale (1 = worst; 5 = best). The items were: (a) distinct teaching objectives; (b) effective means to achieve the objectives; (c) clear delivery of the basic contents; (d) clear explanation of the key concepts and principles; (e) successful in motivating students to learn; (f) effective in helping students consolidate what they have learnt.

Table V.4 summarizes the results of teacher observations in the different zones. It shows that teachers everywhere succeed best in defining and clarifying the lesson's objectives. This is related to the rather formal teaching style, characteristic of Chinese education. In addition, teachers generally plan out their lessons thoroughly and teach strictly according to a plan, as shall be seen in the next section. Teachers find it more difficult to achieve the objectives and to keep pupils motivated. On all six items, the urban teachers score significantly better than their rural counterparts, among whom the differences are smaller.

Table V.4. Zhejiang: Observed teaching ability
(average on a 5-point scale)

Sites	Urban *Hangzhou*	Industrial rural *Shaoxing*	Advanced rural *Yuyao*	Devel. rural *Longquan*	Minority *Jingning*
(a) Objectives	4.9	4.1	4.1	4.0	4.7
(b) Effective means	4.2	3.3	3.4	3.3	3.5
(c) Content delivery	4.5	3.8	3.9	3.8	4.0
(d) Key Concepts	4.4	3.4	3.8	4.1	3.5
(e) Motivating	4.2	3.2	3.3	3.5	3.2
(f) Consolidation	4.2	3.3	3.5	3.6	3.5
All items	4.4	3.5	3.7	3.7	3.7

The teachers themselves seem to be aware of the limitations of their competence. In Guinea, for example, half the teachers questioned state that their insufficient training in French and mathematics is a problem for them, and makes the functioning of their class difficult. In Madhya Pradesh, there is an indirect indication of this awareness in the fact that 70 per cent of interviewed teachers believe that if the teaching of mathematics and sciences were entrusted to specialized teachers, the quality of the teaching/learning process would be considerably better. This relative lack of competence of certain teachers would be less of a problem if they had precise and detailed guides to help them teach more effectively. But this is generally not the case in the schools studied, as has been indicated in the chapter on school infrastructure.

Apart from the fact that it is difficult to effectively teach material that one has not mastered well, one can imagine that the teacher will prefer to teach what he knows best. In the absence of rigorous control of what happens in classrooms, especially in rural zones, this represents an additional risk of distortion of the opportunity that pupils in these zones have to learn what is actually set out in the curriculum.

III. The use of work plans

A third factor that affects the quality of education is the extent to which teachers follow a well-established work plan. While teachers in all countries are expected to prepare regular work plans, the use of work plans, whether they be monthly, weekly or especially daily, is far from being the rule, except in schools with strict control at the level of the institution.

In Zhejiang, such strict control exists. Supervisory staff, headteachers and colleagues regularly visit classes. This is one reason why almost all lessons are taught with a detailed work plan. But there are other reasons why such stress is put on formal lesson preparation. Teachers are appraised, in view of promotion or awards, in part on their lesson plans. Teaching is very formal and, if the teacher wants to keep the class under tight control, a well-prepared lesson plan is of great value. There exist, not surprisingly, standard books for lesson planning. Because of these factors, teachers spend a lot of time every day on lesson preparation: on average more than two hours per day. This appears to be standard as the differences between the sites were small.

The situation in the other countries is very different. There are some detailed data on Madhya Pradesh, where, in principle, teachers, as elsewhere, must draw up a monthly work plan in a special register, indicating the lessons they will teach, the concepts they will cover, the methods they will use, etc. But one third of teachers on average say they do not do this. As shown in *Figure V.1*, the corresponding percentages are substantially higher in rural than in urban zones.

A more detailed analysis shows that it is mainly teachers working in incomplete schools who do not prepare their monthly plans (43 per cent against 17 per cent in complete schools). Two factors may explain this situation.

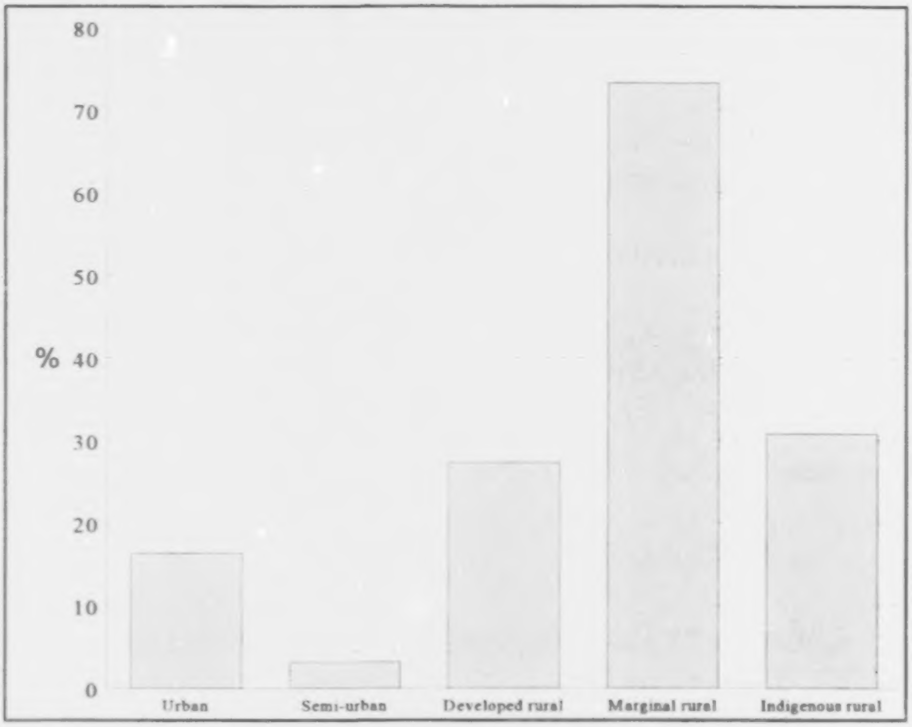

Figure V.1. Madhya Pradesh: Percentage of teachers by zone who say they do not prepare a monthly work plan.

First, and as already mentioned, these schools do not have a headteacher as such with the necessary authority to control the preparatory work of teachers. Second, and more important, teachers in small schools are usually responsible for classes with several grades, which makes the preparation of work plans no doubt more necessary, but also more complex.

As for daily work plans, one observes that roughly 50 per cent of teachers with multigrade classes do not prepare a daily work plan, but simply decide how to organize the class when they arrive at school each day. The reason they generally give is that it is difficult to follow a pre-established plan when one is not sure of pupil presence, and when pupils at different levels progress at extremely variable rates. A real difficulty in small schools, but even in larger ones, is that the absence of one teacher may force another to change his/her work plan as he/she receives the children from another classroom in his/her classroom.

One does generally find daily work plans in complete schools. But discussions with teachers indicate that in many schools, even large ones, these plans are not really followed, at least in government schools. The fairly common recourse to specialized teachers in private schools imposes greater respect for timetables and work plans. Even more importantly, supervision in such schools by headteachers and management committees is much tighter.

There is not as much detailed information for the other two countries. But observations made by investigators during field visits show that similar problems exist, especially in small rural schools, where the control of teachers is very limited. It should be added that the problem of poor structuring of teaching in multigrade classes is compounded by the fact that teachers have been prepared very little, or not at all, to deal with the inherent difficulties of teaching under these specific conditions.

IV. Teaching style

A fourth factor that differentiates schools by teaching quality has to do with the teaching style. At first glance, the teaching mode is essentially the same everywhere. The teaching approach is traditional, centred on the teacher, and fairly rigid or even authoritarian. But it must be said that more progressive methods, favouring learning centred on the child, based on discovery and consequently on the construction of knowledge by the pupil himself, require that the teachers have a level of competence and especially of motivation much higher than that which one generally finds among the teachers who were covered by the surveys.

Despite this apparent uniformity, there are certain variations within the same country. The continuum proposed by Bude following research in Northern Pakistan[3] applies perfectly well to the reality observed in the classes of Madhya Pradesh and Puebla[4]. It runs from a minimal situation, in which the teaching process is rather disorderly (according to Linda Dove, referred to by Bude, 'survival teaching'[5]), through to a teaching situation that is still traditional, but well structured and with good interaction between the teacher and his pupils. To take the example of

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[3] Bude, U.; Chowdhri, S. (1990). p. 135.

[4] No systematic observation of teaching style was carried out in Guinea. The situation in Zhejiang is quite different as will be analyzed later on.

[5] Dove L.A. (1986).

Madhya Pradesh, the first extreme case is faithfully illustrated by the situation encountered in most schools in the indigenous zone of Mandla, and the second by the situation in the best (private) schools in urban zones.

Still in Madhya Pradesh, one of the most common teaching methods in rural schools, but not only in those schools, is quite simply to have the textbook read, either by the teacher or by a pupil, as shown in *Table V.5*, based on class observations. To be sure, this approach is not necessarily a bad one, but when it becomes the rule it must end up having a wearying effect on the pupils. The fact that it is so common is no doubt due to the absence of guides for teachers, and to the fact that most of them have received no pedagogical training. The paucity of textbooks for pupils in rural zones may also be an explanatory factor. But what can pupils learn when the teacher reads, without too many explanations, a textbook that they do not have in front of them?

Table V.5. Madhya Pradesh: Distribution of teachers by whether they practise textbook reading by the teacher or by a pupil (data based on class observations)

	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Textbook reading by the teacher					
Very often	13.8	26.8	38.6	45.9	45.4
Sometimes	51.7	43.9	56.8	51.3	27.3
Never	34.5	29.3	4.6	2.8	27.3
Textbook reading by a pupil					
Very often	20.7	12.2	29.5	86.5	45.4
Sometimes	37.9	24.4	38.7	13.5	45.4
Never	41.4	63.4	31.8	0.0	9.2

These observations also revealed a whole range of variants in the way in which the textbook is read. Some teachers read and do nothing else, or have a pupil read, while others write out the main points on the blackboard, some teachers have the lesson recited aloud, while others put questions. Differences among zones with respect to this last point are very pronounced. It is in the rural schools, where textbook reading is most widespread, that teachers are least likely to put questions to their pupils (see *Table V.6*).

It should be noted, however, that the percentage of classes in which the teacher asks no questions to pupils is not negligible in any of the zones, for it varies from 55 per cent in the indigenous zone to 10 per cent in the urban zone.

Table V.6. Madhya Pradesh: Distribution of observed classes by whether the teacher puts many, few or no questions to pupils

	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Often	58.6	41.5	47.7	2.0	9.1
Sometimes	31.1	36.6	38.6	73.5	36.4
Not at all	10.3	21.9	13.7	24.5	54.5

More generally speaking, the effort made by teachers actively to involve pupils in the teaching/learning process was assessed by observers as poor in 44 per cent of the cases, on average over all zones, with extreme positions ranging from 80 per cent in the indigenous zone to almost 30 per cent in the urban zone.

Observations made in Puebla run along the same lines. In this case, observers were asked to take note of the frequency of certain practices on the part of the teacher. As shown in *Table V.7* below, pedagogical methods practised in the two developed zones, and especially in the privileged urban zone, seem to be considerably livelier and more active than in the other zones, including the marginal urban zone.

The observations made in Puebla also show that all the components of a certain style of teaching are related to one another. It is the locations with the most competent teachers that also exhibit the most motivated teachers, who teach with greater enthusiasm and have a more positive attitude to their work. It is also in the same places that teachers take the greatest interest in their pupils, are available to help them, put questions to them and maintain good classroom organization.

Table V.7. Puebla: Average number of times that certain pedagogical practices were used by the teacher while the class was observed

Pedagogical practice	Urban *Puebla*	Marginal urban *Libertad Tecola*	Devel. rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlan*	Indigenous population *Cuetzalan*
Definitions are given	3.5	0.8	3.6	1.6	1.1
Examples are given	3.4	4.5	2.9	2.4	1.8
The blackboard is used	5.1	4.6	4.7	3.2	3.2
Graphical material is used	1.5	0.8	1.4	0.8	1.0
Pupils participate in the presentation of the lesson	6.7	2.8	4.5	1.5	2.6

In the case of the urban zone, for example, roughly half the teachers were evaluated by observers as very good in each of these aspects, whereas the corresponding proportion in the marginal urban zone was less than one fifth (see *Table V.8*).

In Zhejiang, variations in teaching style between the different sites are far less noticeable Indeed, the general picture of a lesson in a Chinese classroom seems to differ little from one class to another. As previously noted, teachers everywhere follow a strict plan and keep fairly tight control. That does not imply that teaching is boring neither does it exclude participation. But such participation consists mainly of students answering the teacher's questions or doing the work requested by the teacher. The classroom observations show that students in all sites are active in class. In addition to answering questions (which constitutes the dominant activity) they are mainly engaged in reading and doing work at their desk or on the blackboard. Discussions are more rare, while students seldom initiate questions themselves.

Table V.8. Puebla: Percentage of teachers classified as very good (maximum on a five-point scale) on different aspects noted during class observations

	Urban *Puebla*	Marginal urban *Libertad Tecola*	Devel. rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Competence					
Teaching ability	41.9	6.7	32.1	17.6	20.8
Mastery of the material	48.4	6.7	28.6	17.6	20.8
Clarity of exposition	51.6	16.7	17.9	17.6	20.8
Motivation					
Positive attitudes	54.8	16.7	14.3	17.6	33.3
Enthusiasm	51.6	13.3	32.1	29.4	33.3
Attitude					
Interest in the children	51.6	13.3	35.7	35.3	41.7
Availability to help children	51.6	17.2	28.6	23.5	33.3
Intensity of interaction with pupils	41.9	3.4	28.6	11.8	4.2
Organizational ability					
Structured teaching	48.8	6.7	21.4	0.0	16.7

The Zhejiang classroom observation also looked at teaching strategies in detail. A first aspect in this regard concerns the use of teaching aids. The figures in *Table V.9* represent the percentage of classes where each aid was used during teaching.

Table V.9. Zhejiang: Percentage of classes where different teaching aids were used during classroom observation

	Urban *Hangzhou*	Industrial rural *Shaoxing*	Advanced rural *Yuyao*	Developing rural *Longquam*	Minority *Jingning*
Textbook	85.0	94.0	87.0	100.0	58.0
Blackboard	95.0	100.0	81.0	90.0	58.0
Mini blackboard	65.0	61.0	38.0	70.0	42.0
Wall chart	-	-	-	-	-
Audio-visual tools	5.0	-	-	-	-
Models	5.0	6.0	-	-	-
Equipment	-	-	-	-	-
Supplementary exercises	10.0	28.0	25.0	10.0	42.0

In all sites, the textbook, the blackboard and the movable mini blackboard are by far the most used teaching aids. Teachers use supplementary exercises, probably in part to make up for the lack of other equipment: wall charts, audio-visual tools, models, science posters and so on, but these are used in only a few classrooms. The diversity of teaching aids used is greatest in the urban and industrial rural zones, with the minority site being at the opposite extreme. This probably reflects the availability rather than the mere use of teaching aids.

A second aspect which was examined in relation to teaching strategies, concerns the teaching performance. Ten dimensions were looked at and teachers were evaluated on a five-point scale, as is shown in *Table V.10*:

(a)	morale when teaching	low	–	high
(b)	attitude towards students	cold	–	warm
(c)	language style	grave	–	lively
(d)	use of language	confusing	–	clear
(e)	pronunciation	heavy accent	–	standard
(f)	attitude to poor performers	cynical	–	encouraging
(g)	ability to master subject matter	weak	–	strong
(h)	blackboard writing	illegible	–	elegant
(I)	classroom management	chaotic	–	appropriate
(j)	time control	poorly planned	–	well planned

Table V.10. Zhejiang: Observed teaching performance: average scores on a five-point scale

	Urban *Hangzhou*	Industrial rural *Shaoxing*	Advanced rural *Yuyao*	Developing rural *Longquan*	Minority *Jingning*
(a) Morale	4.4	3.9	3.6	4.1	3.9
(b) Attitude	4.8	3.9	3.7	4.2	3.1
(c) Language style	3.9	3.7	2.9	3.3	2.7
(d) Language use	4.7	3.5	3.3	3.8	3.5
(e) Pronunciation	4.6	2.8	3.1	4.5	3.6
(f) Poor performer	4.8	3.9	3.6	4.1	2.7
(g) Subject matter	4.8	4.3	4.1	4.3	3.7
(h) Blackboard writing	4.2	4.1	3.5	4.0	4.0
(i) Classroom management	4.8	4.3	3.7	4.5	4.0
(j) Time control	4.5	3.6	3.6	4.0	3.8
All items	4.5	3.8	3.5	4.1	3.5

Overall, teacher performance is found to be satisfactory. Teachers are particularly strong in mastering the subject matter and classroom management. This confirms the remarks made above about teachers' tight control over the classroom and the formal teaching style. It also highlights the difference between Zhejiang and, for instance, Puebla (see *Table V.8*). Teachers are weak in particular on language-related items. This is because the Zhejiang dialect belongs to the Eastern China language group and the pronunciation system is basically different from the common language, which belongs to the Northern China language system. On the whole, however, the fairly high average scores given to teachers, reflect their professionalism and the expectations and subsequent pressure from their supervisors and the community.

Table V.8 also shows that teachers in the urban site are the best performers, while the advanced rural and minority sites have, on average, the poorest-performing teachers. The high score of the urban site is probably related to different factors: the greater language mastery (the standard language is used more in the urban site), more physical resources, better trained teachers and tighter control. But it is difficult to draw a direct relationship between these factors and teacher performance for all sites. The industrial site, for instance, suffers from poorer facilities than the advanced rural site, yet its teachers apparently perform better. What is certain and confirms the remarks made earlier in relation to Puebla – is that performance is teacher-specific. Most teachers score consistently well on all items or consistently poorly.

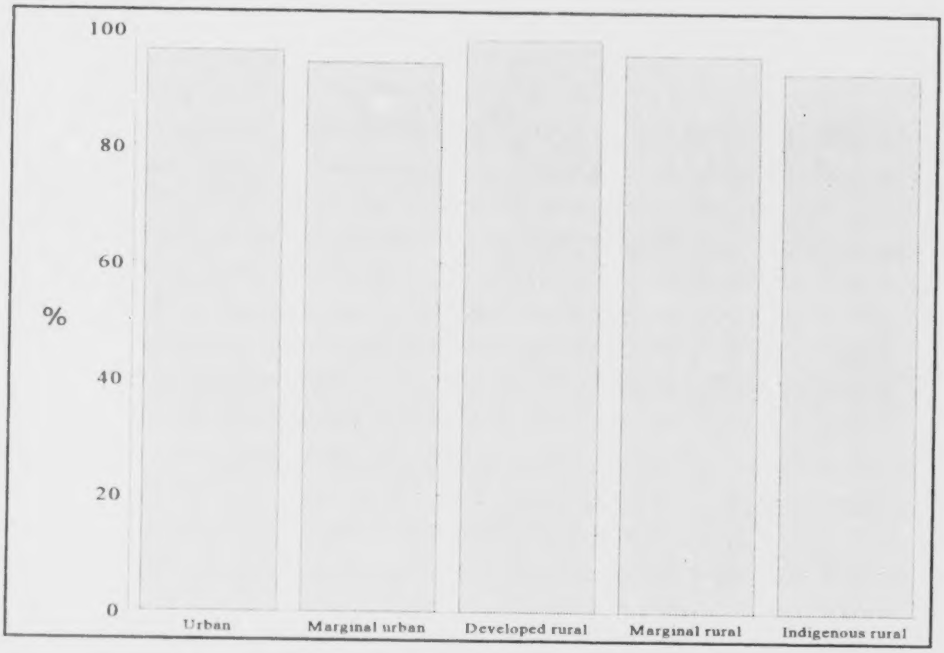
Teaching style is clearly a unitary concept, closely related to the teacher's competence but also to his/her level of motivation and to the intensity of control and support from which he/she benefits.

V. Homework

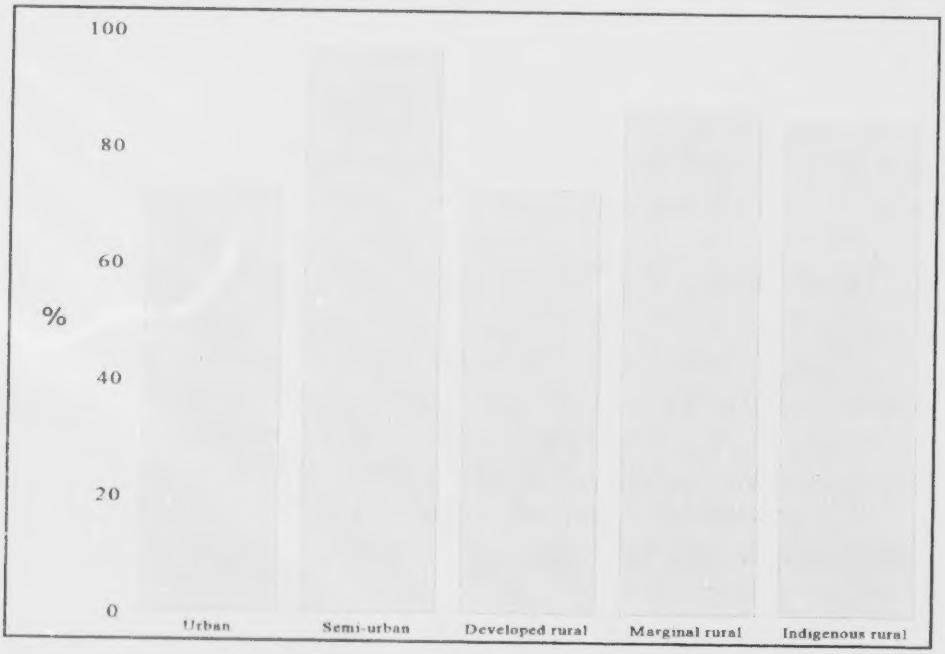
In addition to teaching style as such, homework is also considered to be an important component of the quality of education, and a strong determining factor in learning achievement. But generalizations need to be avoided when studying the data collected under this project.

The percentage of teachers by zone who state that they assign homework at least several times per week are given in *Figure V.2* for three of the four countries. In Zhejiang (*Figure V.3*), teachers were not asked if they gave homework, which is considered to be an inherent part of the school's traditions, hence there is little doubt that all teachers assign some. In this case, the question asked was: how much time is spent per day on marking exercises and scripts, including homework?

a) Puebla



b) Madhya Pradesh



c) Guinea

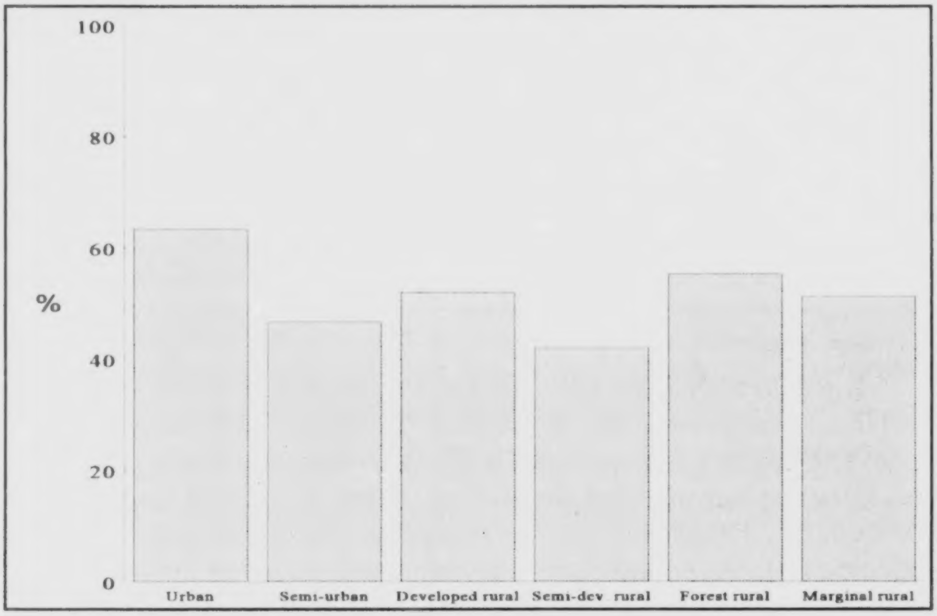


Figure V.2.a), b), c) Percentage of teachers by zone who state that they assign homework at least several times per week

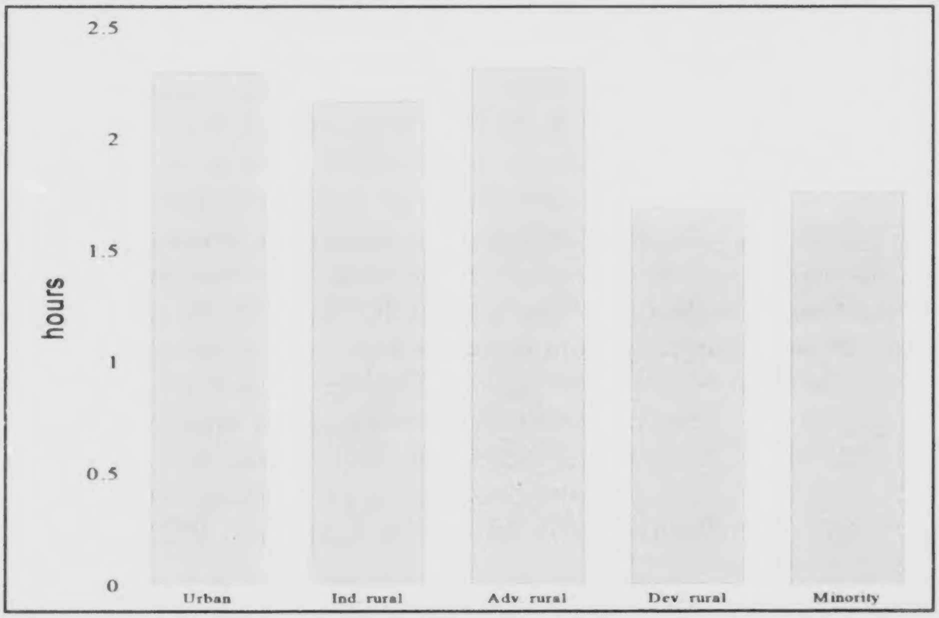


Figure V.3. Zhejiang: Time spent by teachers per day for marking papers (in hours)

On average, about two hours a day are taken up by this work, the amount of time being slightly less in the developing rural and minority sites than in the others.

As can be seen, the tradition of assigning homework is as firmly established in Puebla and Madhya Pradesh as in Zhejiang. This is slightly less true of Guinea, although even in that country, on average less than 20 per cent of teachers for the six zones state they never give homework. Information collected from parents and pupils generally confirms the statements made by teachers, even though some discrepancies were identified, especially in the rural zones of Madhya Pradesh and in certain Guinean zones.

It has already been pointed out that, according to the surveys of families, it does not seem very realistic to expect pupils in the poorest zones to be able to do homework properly. They have other work to do, they have no place to isolate themselves, sometimes they do not even have the necessary school supplies, not to mention the lack of proper lighting facilities, and, most importantly, they can hardly count on family support. Moreover, one can reasonably wonder about the effectiveness of homework when, as has been seen, the teaching/learning process is such that pupils often do not assimilate at school the very principles they are supposed to apply at home.

Finally, and above all, the effectiveness of homework also depends on the way it is corrected. Individualized corrections, which give the teacher an opportunity to repeat an explanation or to help the pupil to overcome his/her shortcomings, are more effective than collective correction or no correction at all. The data collected in this respect in Madhya Pradesh are of interest, because they once again show very distinct differences among zones. Most teachers in the three rural zones (75 per cent) say they are in the habit of correcting homework in class on a collective basis. More in-depth discussions show that, in the best of cases, they write the correct answers on the blackboard, and the pupils make the necessary corrections in their notebooks. On the other hand, in the two urban zones this method is used by only 25 per cent of teachers (mostly in government schools). The others correct homework outside the class, allowing them to provide pupils with individualized comments. In the private schools, homework is done in a separate notebook, which facilitates correction by the teacher and verification by the headteacher and the parents.

The obvious conclusion with regard to the above is that, while homework is no doubt functional in towns, this is not necessarily true of the poorest rural zones. One sometimes has the impression that homework in these zones has become a ritual, which serves more to appease the teacher's conscience than to reinforce the pupil's knowledge. For example, it is revealing that, when asked about the type of special support they provide for pupils who have difficulty in following the class, almost 30 per cent of Guinean teachers say that one of the methods they use is to assign additional homework.

VI. Knowledge evaluation

A last quality factor is the regular evaluation of acquired knowledge, by means of written tests. It was found that such tests were relatively infrequent, at least in Guinea and in Madhya Pradesh, for there are no similar data for Puebla and Zhejiang. In Guinea, about 40 per cent of teachers, on average, for the six zones, say they give a written test once per trimester, 20 per cent once per month, and 40 per cent more than once per month. Slightly more than 85 per cent say they regularly correct these tests in the class on a collective basis.

Tests in Madhya Pradesh seem to be a little more frequent, since on average 15 per cent of teachers give written tests only one to three times a year; 70 per cent give them once a month and 15 per cent more often than that. On the other hand, fewer of them do the corrections in class with pupils, for only 40 per cent say this is their regular practice. Detailed discussions with teachers show the same differences between government and private schools as in the case of homework correction. In government schools, when any correction is done, it is collective, whereas in private schools it is general and individualized. In any event, in both Madhya Pradesh and Guinea, teachers are very poorly trained in evaluation techniques, and the reality is far from the continuous evaluation procedures recommended by official programmes.

VII. Conclusions

The quality of education depends, in the final instance, on what goes on in the classroom. To examine the classroom teaching process is an ambitious objective: it implies that one studies teachers' behaviour rather than more objective indicators such as the provision of textbooks, teachers' qualifications and so on. Such a study, for which questionnaires and observation were used, encounters well-known problems, referred to at the beginning of this chapter. Notwithstanding those problems, the picture which emerges is, if not a complete, certainly a coherent one.

The pedagogical processes that were observed in all four countries are traditional in nature, that is, fairly rigid and centred on the teacher rather than the pupil. This is not surprising. Even a well-trained teacher, having access to all necessary educational tools, finds it a challenging task to teach pupils at primary level in a participatory and interactive way.

This being said, there are great variations in what actually happens in classrooms. This is reflected in every aspect of the teaching process. At one extreme of the continuum of observed situations, one finds a chaotic didactic reality: teachers and pupils are often absent, the teacher does not have the competence required to teach well, he/she does not follow a precise work plan, merely reads from the textbook, does not use the blackboard, gives few examples and few exercises, does not question the pupils, he/she assigns little or no homework, never or rarely gives written tests. At the other extreme, the pedagogical process is structured and effective: the teacher and the pupils are rarely absent, the teacher knows the subject matter and how to present it, he/she teaches according to a precise plan, presents the lessons in a structured manner, has the pupils participate actively, frequently uses the blackboard and other didactic means, gives examples, alternates explanations and exercises, often assigns homework and corrects it individually, gives regular written tests and communicates their results to pupils and parents.

This picture applies, in general terms, to three of the four case studies and clearly has an urban-rural dimension. Indeed, in Guinea, Madhya Pradesh and Puebla, the typical situation differs widely from the urban and more developed to the remote rural areas. Not surprisingly, in the least developed rural zones, a good number of the observed classes come close to the first extreme, that is, a situation in which the minimal conditions for genuine learning to take place are simply not fulfilled. In Puebla, for example, rural teachers are twice as likely to be absent as their urban colleagues, and the period of absence is usually twice as long. The clarity of class presentation in Madhya Pradesh was evaluated as *good* for only one out of three urban teachers, but for not even a single teacher in the two least developed rural zones. It is also in those zones that the teaching process is limited mainly to textbook reading: this is the case in half of all marginal and indigenous classrooms, but in less than a quarter of the urban ones.

But, significant differences exist between countries. The contrast is most evident between the relatively encouraging situation in China (Zhejiang) and the other countries. In Zhejiang, indeed, while some differences between the sites are observed, nowhere does the teaching process come close to the chaotic pole, described above. Nowhere is teacher absenteeism a grave problem. Everywhere, teachers regularly prepare work plans and give homework. In all sites, teacher competence is assessed as at least fairly good. The fact that in general the teaching process in Zhejiang is well structured may be partly related to differences in culture and pedagogical traditions, but it can also be explained by the efficient control structures in place at the local level.

Finally, it should be noted that even in the other three countries, one always finds, within the same zone, schools that perform better than the others. What is even more significant is that the teaching process in some remote rural classrooms was found to be more orderly, more structured and effective than in some classrooms in the developed urban site. There is thus no inevitability to this picture. Even the schools who get the worst deals can overcome the objective constraints described in the previous chapters: inadequate buildings, few teaching aids, inefficient support services and so on.

In the following chapter, on the achievements of pupils, an analysis is made in greater detail, explaining these differences, which will allow reflection on how to improve the situation. At this point, one can simply say that the main differences have to do with teacher motivation, with the headteacher's role, when there is one, with the strength and intensity of supervision and with the school's general atmosphere and its relations with the community. In other words, the impact of process factors (in particular the relationships between the different actors: teachers, supervisors, headteacher, pupils, parents) on quality is greater than the impact of input factors (e.g. textbooks, teacher training, teaching aids). Is this to say that input factors are of no importance at all? That schools can function effortlessly without the bare necessities? *Obviously not.* But to believe that the mere provision of those necessities, without attention to how they will be used in school and in the classroom, will guarantee a high-quality teaching process, is unrealistic.

Chapter VI

The achievements of pupils

One of the main thrusts of this research project is to see what children really learn in primary education, and to evaluate to what extent the educational objectives are attained, not only from the access point of view but especially from that of the results obtained. A series of evaluation tests was therefore designed to make the measurement of learner achievement possible. In the following pages, an account is given of how these tests were drawn up in the countries participating in the project, and the hypotheses on which they were based.

There follows an analysis of the results in two successive stages. *Firstly*, the variation in the results among the different urban and rural zones selected for the study are examined, considering in particular the proportion of children who achieved mastery of basic skills in each of these zones. The *second* stage of the analysis consists of a study of the variation in results from school to school and the factors that can influence the level of performance of schools, identifying in particular those that can be adjusted in order to improve the quality of basic education.

I. The design of evaluation tests

Since they are intended to evaluate to what extent national objectives of basic education are attained in terms of pupil achievement, the tests were made country specific, taking into account the objectives and the content of the curriculum. The aim of these tests is certainly not to compare the relative levels of different countries. Each national team was left free to define what could be considered to be the basic skills that pupils should master towards the end of primary education (Grade IV and last Grade: V or VI).

Each country set up its own panel, consisting of evaluation specialists from the Ministry of Education, of professors from teachers' colleges, and of school headteachers and primary teachers. These panels had the responsibility of designing tests and of preparing specific items.

In Madhya Pradesh, not only are the objectives of primary education clearly set out but, in addition, the minimal competencies required at the end of each grade are officially defined. Tests in Hindi and arithmetic were therefore prepared on the basis of these minimal required competencies. For each of these two subjects, the test includes three groups of items, corresponding to the competencies required at the end of Grades II, III and IV of primary education respectively. In this sense it can be said that the Indian tests are of graduated difficulty. Since the test was to be taken by pupils from both Grades IV and V, the national panel decided not to include the minimal competencies required at the end of Grade V, that is, the last year of primary.

In Guinea, in the absence of an official definition of required competencies, the national panel based its work both on school curricula and on textbooks normally used in schools. Here again three levels were identified. With regard to written communication, the first level simply encompasses the understanding of words and the ability to copy them. Albeit rudimentary, mastery of this level is indispensable, because the language of instruction is French, a language that is not used in the vast majority of families. The second level involves being able to extract and use information contained in a sentence, or to write a simple sentence describing an image, with adequate spelling and syntax. Third level requirements are comprehension of a text, with extraction and utilization of the information contained therein, and writing a letter according to precise instructions, with no spelling or syntax mistakes and in accordance with the usual rules of presentation.

Three levels were also defined for arithmetic in the same way. The first involves knowing the numbers up to 1,000 and the four operations without decimals. Operations with decimals, the recognition of various geometric figures and the solution of simple problems, consisting of direct application of given information, are added at the second level. Finally, the third level includes operations with fractions, computation of surface areas, and solving more complex problems requiring reflection and logical reasoning on the part of the pupil.

In Zhejiang, as elsewhere, the test's purpose was to examine to what extent pupils had obtained what local educators and researchers considered basic skills to be acquired at the end of primary schools. Two different tests were administered, the first one covering literacy and numeracy, the second one related to other subjects (history, fine arts, home economics ...). The case study, however, reports only on the first test. For the test covering mathematics (i.e. operations, applications, geometric figures), questions in increasing order of difficulty were asked. To answer correctly questions of the first level of difficulty implied that the pupil had only a rudimentary knowledge. A correct answer to the second- and third-level questions respectively, was equivalent to basic and advanced knowledge[1].

Not surprisingly, there were cases where students got third-level questions right, while having failed on first- or second-level ones. The study therefore designed a complex matrix for various levels of student attainment, so as to assign a composite grade to the students. The device was not perfect, but the test results did form a rather systematic hierarchy. The same problems were not encountered in the language items, as students were assigned a grade (from a = advanced, to d = fail) on the basis either of the number of correct answers (in the case of reading comprehension) or of a global evaluation of their answer (for the items: writing application and composition). For the sake of analysis, these grades were converted into numbers: 3 for advanced, to 0 for fail.

In Puebla, the approach adopted by the national panel was different yet again, and in one sense more ambitious. As opposed to Guinea, Zhejiang and Madhya Pradesh, which used the same test for both Grade IV and end-of-primary pupils, two different tests, with some aspects in common, were prepared. As in the case of Zhejiang, the coverage of the tests was also more broad, for it pertained not only to communication and arithmetic, but also to health and productive work. Moreover, the tests were designed on the basis of a definition of the basic skills that children were expected to acquire through primary education, rather than what the curriculum defined as general, particular or specific objectives. The curriculum nevertheless served as one reference for the construction of these tests.

The definition of basic skills put the stress not on knowledge itself, but rather on logical reasoning and on the application of knowledge in everyday situations and problems. This choice is essentially justified by the test designers by the fact that a large number of pupils do not go beyond primary education. Consequently, in their views, this level of education must be capable of offering them the skills they need to

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[1] One example can clarify this method. It concerns the first mathematics item: mathematical operations. The three questions asked were as follows. The answers were multiple choice in format.

(1)	$6300 / 45 = ?$	(Rudimentary)
(2)	$47.15 + 2.3 = ?$	(Basic)
(3)	$(9.6 - 0.6 + 0.15) \times 1.2 + 0.8 = ?$	(Advanced)

confront real-life situations, and to solve daily problems. This was applied to the skills required in communication (reading and writing), mathematics (defined as the functional use of mathematics), health (both personal and collective) and basic knowledge concerning productive work.

This emphasis on logical reasoning and on knowledge application to the solution of everyday problems resulted in communication and arithmetic tests that were rather difficult. This was confirmed by the pupils' results, as shall be seen later on. Nevertheless, the tests only reflected officially declared objectives, and it can be said that they measure the degree of attainment of these objectives by Mexican education.

In each country, the tests were tried out in both urban and rural schools, with a view to verifying the clarity of selected items and their internal consistency. Following this, they were given their ultimate form.

After the tests had been taken, their fidelity was verified. In the case of Guinea, the Kuder and Richardson method was used. Traditionally, test fidelity is considered good if the score error variance is in the order of 10 per cent, and still acceptable if it is less than 20 per cent.

Estimation of the Kuder Richardson coefficient, using the formula 20, gave the following results:

	Grade IV	Grade VI
French	0.89	0.88
Arithmetic	0.86	0.90

On the basis of these Kuder Richardson coefficient values, it can be said that test fidelity is satisfactory.

In the case of Madhya Pradesh, test results and especially those of the Hindi test, did not lend themselves to an analysis of 'classical' items, in that detailed information (success or failure on each item) was not available, but rather aggregate results for each of the 22 groups of Hindi items, and for each of the 45 groups of arithmetic items. Therefore, the Cronbach alpha coefficient was used, which was more appropriate in this case.

The values of the Cronbach alpha coefficient for the two tests were:

Hindi test	0.83
Arithmetic test	0.87

They also show that the fidelity of these two tests is satisfactory.

In the case of Puebla, the Cronbach method was also applicable. The alpha value is satisfactory for the communication test, but less so for the test of functional use of mathematics:

Communication test	0.894
Mathematics application test	0.712

Hence it is necessary to apply some caution when interpreting the results of the analysis of scores in the Puebla mathematics application test, whose characteristics were given previously.

In the Zhejiang case, no such verification was undertaken because the test was designed using criteria which do not correspond to those prevalent elsewhere. Nevertheless, the test results still contain some useful information regarding student attainment in Zhejiang. Only general results are discussed since the data did not lend themselves to more sophisticated statistical analysis.

II. Variation by location

Even though the Puebla and Zhejiang tests also cover areas other than communication and the use of mathematics, in this presentation the results obtained in the four countries will be limited to just these two areas. Since the tests were given to both Grade IV pupils and pupils at the end of primary[2], a look will first be taken at the level of mastery attained by pupils at the end of Grade IV, and at the difference between them and pupils at the end of primary[3]. A more detailed analysis will then be made of the results obtained by final-grade students.

(i) The situation at the end of Grade IV

For the two tests of communication and mathematics, mastery levels have been defined in the following way. If a pupil correctly answers 70 per cent or more of the items in a test on a given area, it is considered that he/she has achieved the level of mastery in that area. If he/she correctly answers fewer than 50 per cent of the items, he/she has not achieved it. Between the two thresholds, that is, between 50 per cent and 70 per cent of items, his/her mastery is only partial. In Zhejiang, a somewhat different definition was used. Students scoring 'A' or 'B' had achieved mastery. Those scoring 'D' failed, while the remainder, scoring, 'C', had partial mastery. In the data and figures on Zhejiang, however a distinction was kept between 'A' and 'B', to allow a more precise comparison between sites.

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[2] Grade V in the case of India, and Grade VI in the cases of Guinea and Puebla. Grade VI also in Zhejiang except in schools in the minority Jingning site, where primary school is of five years duration.

[3] Except in the case of Puebla where, as indicated above the tests given to Grades IV and VI pupils were different. Hence it is difficult to make a valid comparison between these two grades, even though some parts of the tests were identical.

As indicated earlier, it is not the intention to compare the levels of knowledge acquired by pupils in the countries in which this research project was carried out. Such a comparison would hardly be meaningful, if only because the objectives of primary education in these countries are different. Moreover, it has been seen that translating these objectives into required competencies raises a number of problems, which were not tackled in the same way by the national teams.

On the basis of the thresholds just mentioned for mastery, partial mastery and non-mastery, it can be said that in Guinea, at the Grade IV level, very few pupils achieved mastery in French (6 per cent on average for all zones), and none in arithmetic (see *Table VI.1*). Therefore it would be deceptive to say that pupils in this country are literate after four years of schooling. This is not surprising, because teaching is in French, which compounds the difficulty of learning.

The results obtained in the State of Madhya Pradesh are fairly similar, except in the urban zone of Indore where, at the end of Grade IV, one third of pupils actually achieved mastery in Hindi, and one fifth in arithmetic (see *Table VI.2*). These proportions were also higher in the semi-urban zone of Gwalior than in other rural zones.

In Zhejiang, test results at Grade IV seem to be fairly good. As is shown in *Table VI.3*, more than half of the pupils in all sites obtained grade a or b in mathematics which are considered to be equivalent to mastery level. This, however, applies to two sites only in regard to the language test: the urban and advanced rural. Particularly notable is the poor performance of the minority zone, where only 2 per cent of pupils obtained basic literacy skills. This is undoubtedly related to the difference between the language spoken at home and in school.

Table VI.1. Guinea: Distribution of Grade IV pupils by mastery of French and arithmetic

Degree of mastery	Urban *Conakry*	Semi-urban *Urban Kankan*	Devel. rural *Rural Kindia*	Semi-dev. rural *Rural Kankan*	Forested rural *Rural Nzérékoré*	Marginal rural *Rural Labé*
French						
Not mastered	69.7	80.6	64.8	61.5	75.5	87.8
Partial mastery	23.0	15.4	27.2	26.5	22.3	9.5
Mastery	7.3	4.0	8.0	12.0	2.2	2.7
Arithmetic						
Not mastered	99.4	96.8	94.5	91.4	99.0	100.0
Partial mastery	0.6	3.2	5.5	8.6	1.0	0.0

Table VI.2. Madhya Pradesh: Distribution of Grade IV pupils by mastery of Hindi and arithmetic in the State of Madhya Pradesh

Degree of mastery	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Hindi					
Non mastered	36.7	61.9	67.0	77.2	97.4
Partial mastery	26.8	22.3	28.2	17.1	2.6
Mastery	36.5	15.8	4.8	5.7	0.0
Arithmetic					
Not mastered	50.4	74.1	93.7	81.5	95.2
Partial mastery	29.1	15.6	4.8	11.8	4.8
Mastery	20.5	10.3	1.4	6.7	0.0

In so far as the difference between Grade IV and end-of-primary pupils is concerned, it is relatively large in Guinea, for it represents two additional years of schooling. As can be seen from *Figure VI.1*, all zones exhibited a significant increase in mean scores between the two grades.

Table VI.3. Zhejiang: Distribution of Grade IV student attainments by site

Mastery levels	Urban *Hangzhou*	Industrial rural *Shaoxing*	Advanced rural *Yuyao*	Devel. Rural *Longquan*	Minority *Jingning*
Mathematics					
A	39.3	23.1	37.4	63.6	37.0
B	31.3	30.0	35.6	15.2	19.0
C	23.1	26.9	13.9	12.1	22.0
D	6.6	20.0	13.2	9.1	22.0
Language					
A	30.0	6.2	62.9	20.2	1.0
B	27.9	27.2	21.7	22.2	1.0
C	32.4	48.3	13.6	40.4	31.0
D	9.8	18.3	1.8	17.2	67.0

This increase is no doubt a result not only of pupil progress, but also of a selection effect, given that the number of drop-outs between the fourth and sixth year is substantial. It is important to note that the knowledge gain is systematic in all zones, including the most remote rural zones, where the teaching/learning process is often very chaotic, as has been seen.

As shown by *Figures VI.2* and *VI.3*, an analogous situation can be observed in Madhya Pradesh and in Zhejiang. In Madhya Pradesh the difference is obviously not as great, since only one year separates the Grade IV from the end of primary. In Zhejiang, the gains are significantly greater for mathematics than for language. This may be partially explained by the fact that the language skills tested were supposed, for the most part, to be already acquired at the end of Grade IV. Skills taught in Grades V and VI were considered as beyond basic and thus not included in the test. This did not apply to the mathematics test.

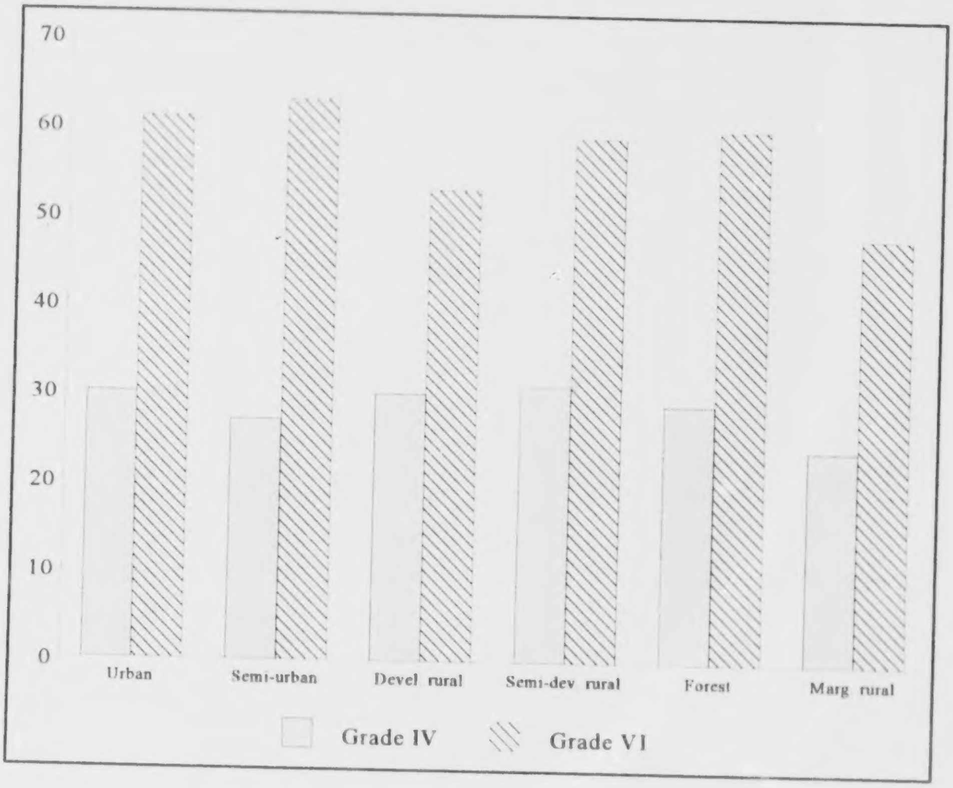
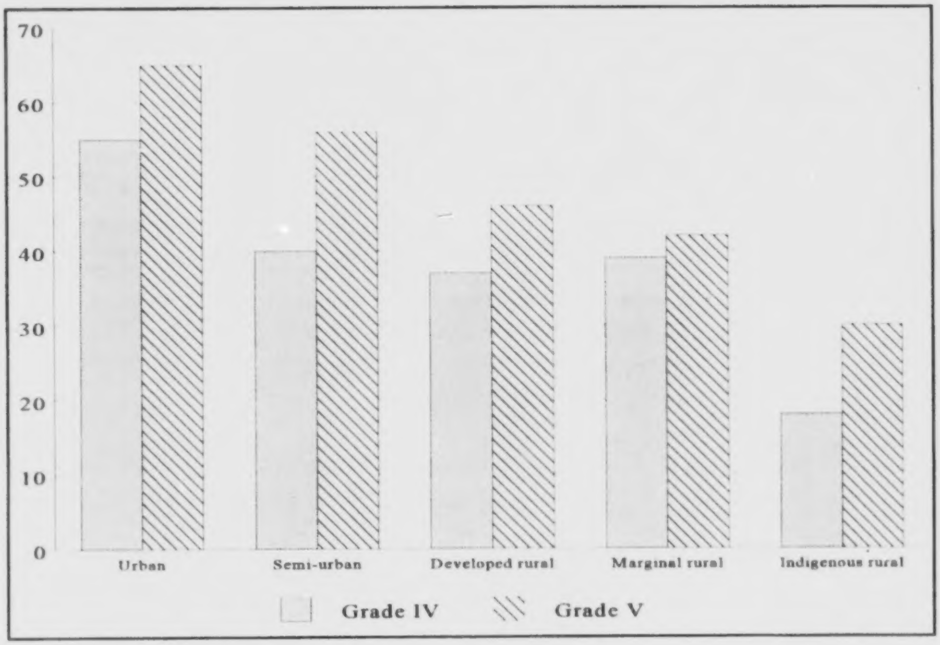


Figure VI.1. Guinea: Total mean score (Grades IV and VI)

224

a) Hindi



b) Mathematics

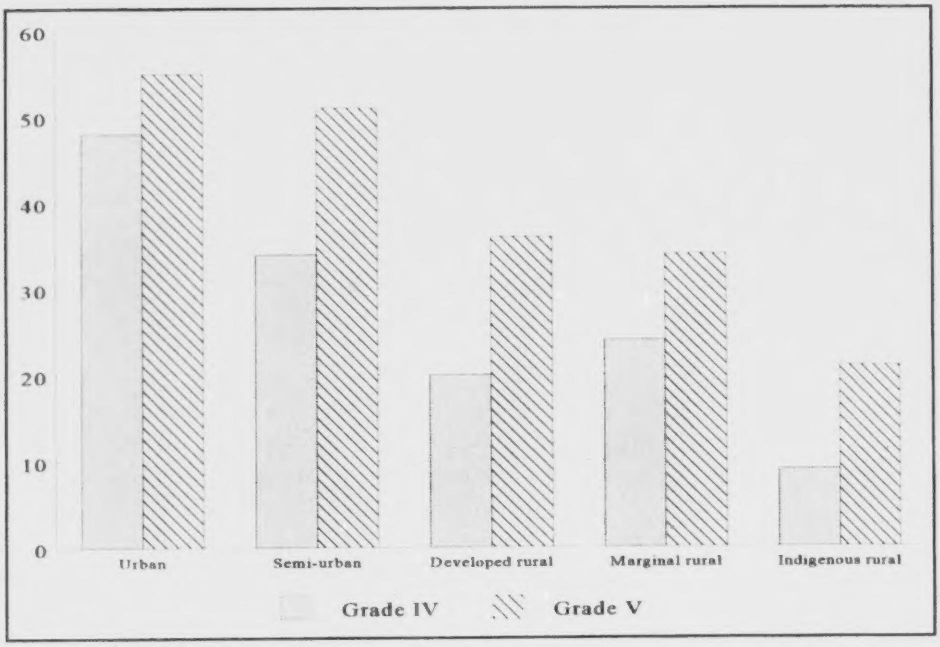
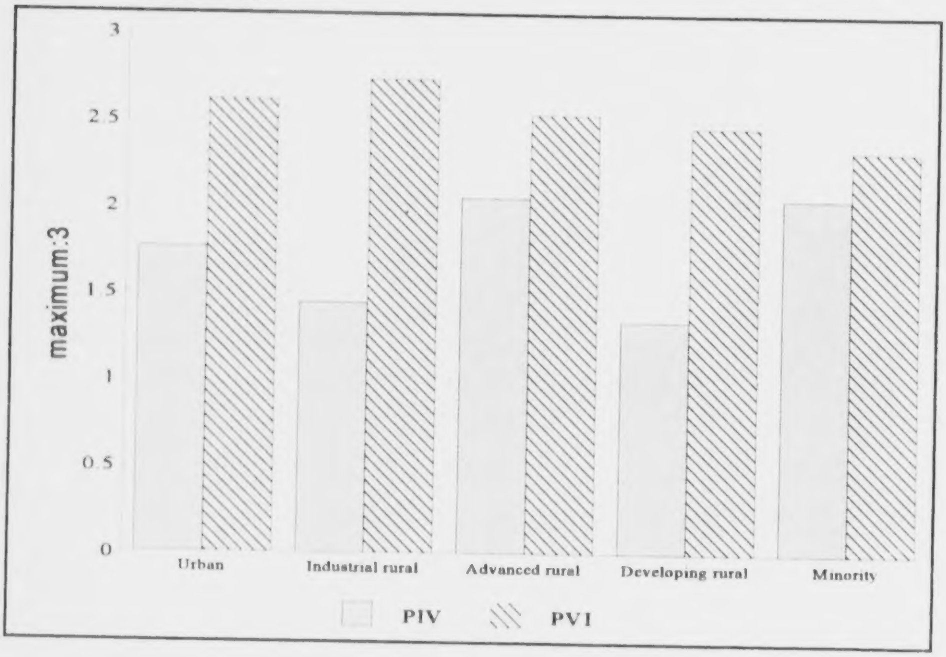


Figure VI.2 Madhya Pradesh: Mean score in Hindi and mathematics (Grades IV and V)

a) Mathematics



b) Language

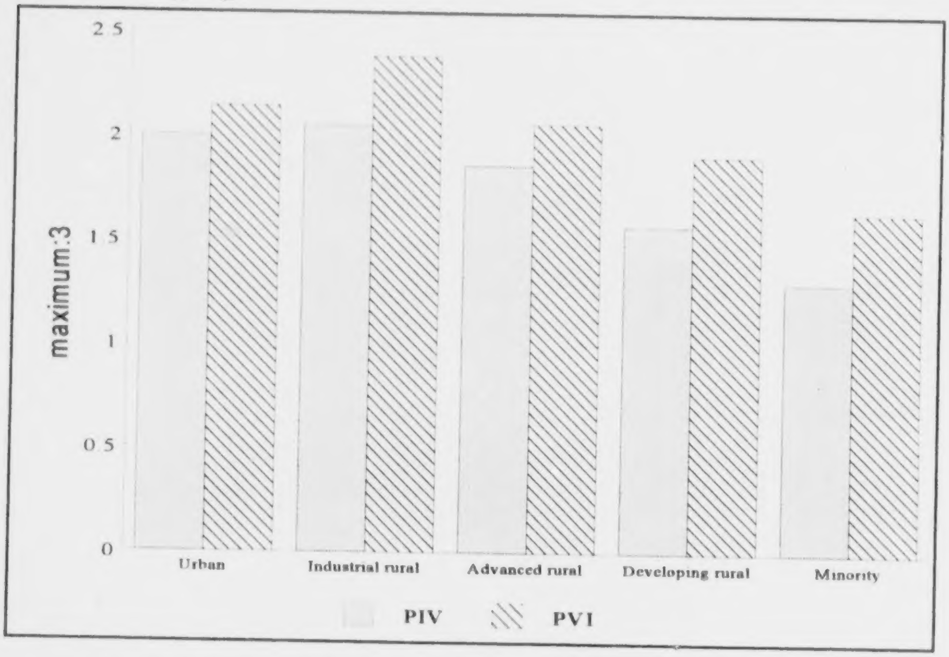


Figure VI.3. Zhejiang: Mean score in mathematics and language (Grades IV and VI [IV and V for minority zone])

(ii) The situation at the end of primary

- *The case of Guinea*

Using the same definitions of non-mastery, partial mastery and mastery, one sees from *Figure VI.4* that, in Guinea, the performance in French of end-of-primary pupils varies greatly from one zone to another, for 62.2 per cent of pupils attain mastery in Conakry but only 24.7 per cent in Labé, the marginal rural zone.

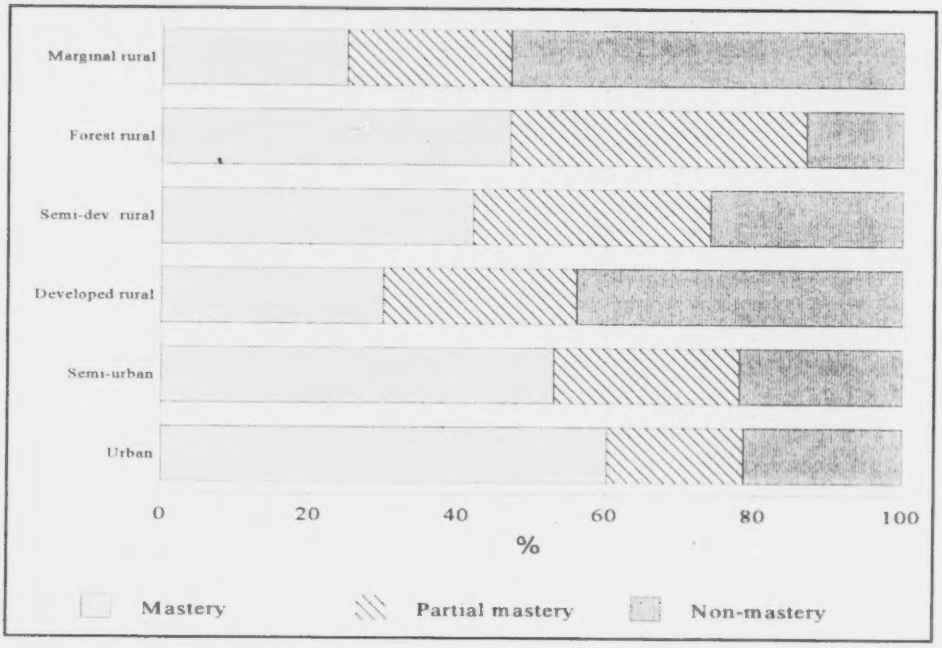
In the semi-urban zone of Kankan, the performance is as good as in Conakry, but results are more diversified in the rural zones. They are best in the forested zone, where Christian missions established a presence very early on. The zone therefore experienced an early development of formal schooling, so the tradition of Western education is well entrenched. This is also the zone with the highest enrolment rate.

Curiously enough, the results in the semi-developed rural zone are also rather satisfactory. This could be paradoxically explained by the fact that its enrolment rate is very low (less than 10 per cent), in fact the lowest of the six zones selected for the study. Since the education offer is very limited, strong selection takes place and only the most motivated children may actually remain in school. The results are mediocre in the other two rural zones (Kindia and Labé), where only one pupil in four reaches mastery, even though the threshold was set at only 70 per cent of correct answers to test items.

The arithmetic results are even more alarming, since the proportion of children attaining mastery varies from one in three in the best case (semi-urban zone) to only one in ten in the worst (marginal rural zone). The structure of results by zone is also rather different. The capital city of Conakry is no longer the privileged zone, for it is easily outstripped by the semi-urban zone (urban Kankan), the semi-developed rural zone (rural Kankan) and the forested rural zone (rural Nzérékoré). The marginal rural zone results are extremely low, as could be expected.

A detailed analysis of success rates item by item shows that a very high proportion of pupils in certain zones do not know specific arithmetic techniques: division with two decimals or operations with fractions. The same is true of geometry and, in particular, the calculation of surface areas. It would seem that the arithmetic curriculum is not covered in the same way in all zones, and that pupils do not succeed with certain operations simply because they have not had an opportunity to learn them. An analysis of success rates by school and by class section confirms this observation. *Table VI.4* gives several examples of arithmetic items for which success rates are particularly low in individual zones.

a) French



b) Mathematics

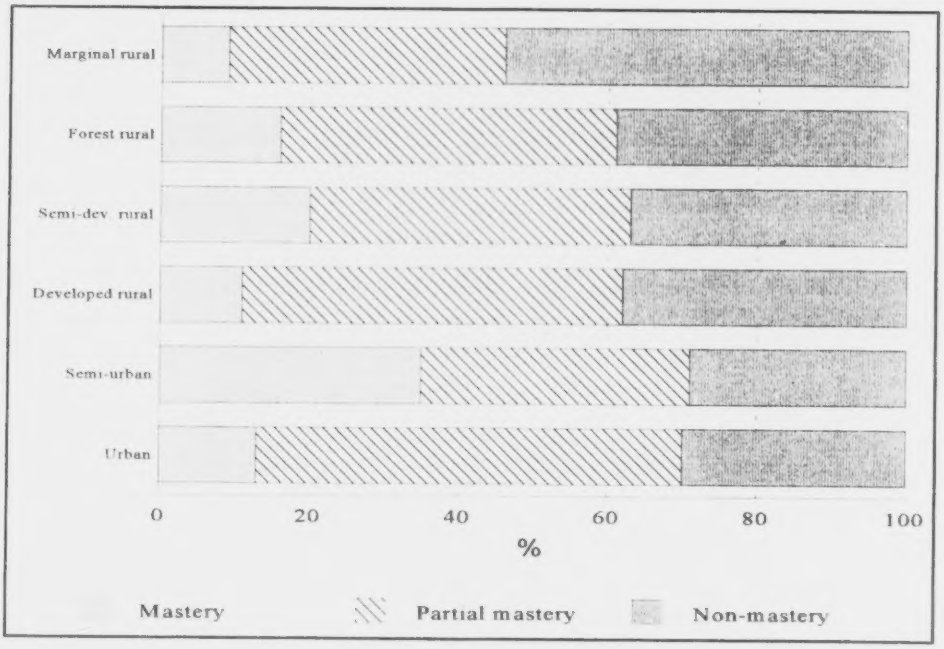


Figure IV.4. Guinea: Distribution of Grade VI pupils by masters of French and mathematics

With respect to arithmetic, what makes the difference among zones is the knowledge of certain techniques of operation of geometry formulae and problem solving. It is no doubt with respect to the latter that the situation is most serious. When the problem is simple, from one pupil in six (in the marginal rural zone) to one pupil in two (semi-urban zone) manage to solve it, as in the case of problem No. 1. But as soon as it becomes slightly more complex, the success rates plummet, as in the case of problem No. 2[4]. For these 'difficult' items taken as a whole, there were relatively good performances from the semi-urban (urban Kankan) and semi-developed rural (rural Kankan) zones.

Table VI.4. Guinea: Success rates of Grade VI pupils on certain items of the arithmetic test

	Urban	Semi-urban	Devel. rural	Semi-dev. rural	Forested rural	Marginal rural
Type of operation	*Conakry*	*Urban Kankan*	*Rural Kindia*	*Rural Kankan*	*Rural Nzérékoré*	*Rural Labé*
Mental computation						
896 x 100	2.6	26.2	3.1	28.3	6.8	8.3
44 x 0.50	9.6	27.7	10.0	23.3	3.4	7.7
Division to the closest one hundredth	12.8	27.7	7.7	9.2	4.2	5.1
Geometry						
Surface area of a triangle	5.1	35.3	5.3	16.8	16.1	6.4
Surface area of a circle	8.9	23.7	3.8	16.0	10.1	7.7
Problem solving						
Problem 1	24.1	52.6	39.7	43.7	24.6	16.0
Problem 2	8.3	33.0	4.6	25.0	12.7	17.9

[4] Statement of the first problem: A headteacher receives 270 table-benches from the prefecture and 324 table-benches from pupils' parents. He is to seat pupils three to a table-bench. How many pupils can he admit?
Statement of the second problem: Two fishing boats have unloaded. One has unloaded 3,250 killogrammes of fish and the other 250 killogrammes less. What is the total weight of fish unloaded?

The case of India, Madhya Pradesh

In the Indian State of Madhya Pradesh, similar disparities among zones are to be found, but to an even greater extent. Using the same thresholds to define mastery, partial mastery and non-mastery, one can see in *Figure VI.5* that the proportion of pupils who reach mastery in Hindi declines gradually from 52 per cent in the urban zone to 30 per cent in the semi-urban zone. The situation is even more drastic in the rural zones, for the proportion varies between 16.0 per cent in the marginal rural zone and 0 per cent in the indigenous rural zone. This is all the more worrying in that, as has been seen, the Indian test was based on the minimal competencies required at the end of the fourth year. Yet in the indigenous rural zone, not a single pupil managed correctly to answer half the Hindi test items.

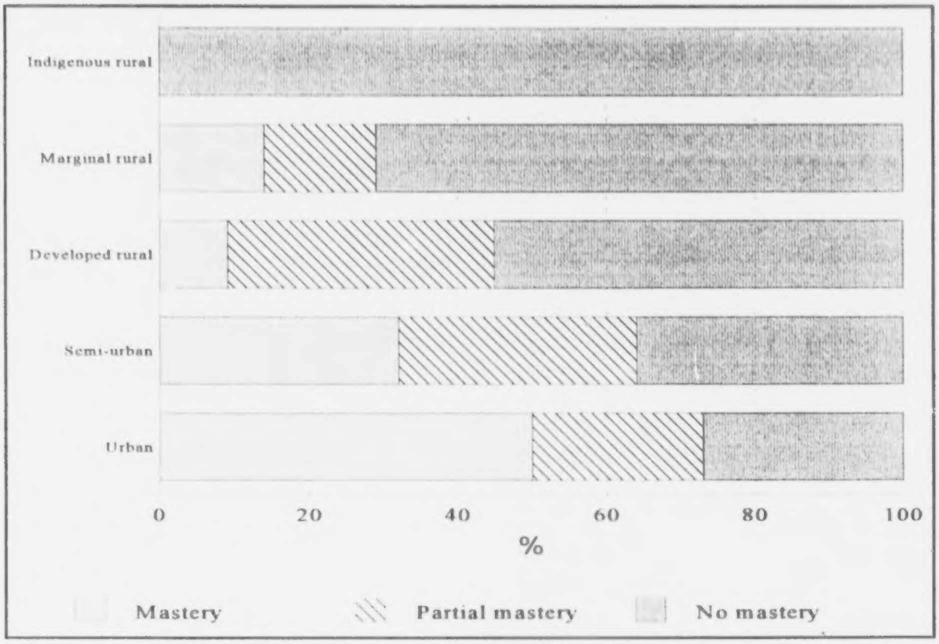
The structure of arithmetic results follows more or less the same pattern, but at an even lower level. The proportion of children who did not attain mastery in this subject is in the order of one third in the urban zone, and gradually rises to 39.2 per cent in the semi-urban zone, to 71.9 per cent in the developed rural zone, and to virtually 100 per cent in the indigenous rural zone.

One of the reasons which might explain the high proportion of children not attaining mastery at the end of primary school is that in Madhya Pradesh, up to Grade III, children are automatically promoted to the next grade whatever their marks. As of Grade III, the mark required for promotion is only 30 to 35 out of 100.

The case of Mexico, Puebla

There are considerable disparities by zone in Puebla as well (see *Figure VI.6*). In this case, however, the contrast is more pronounced and essentially occurs between the urban zone of Puebla, on the one hand, and all the remaining zones, on the other. In the field of Spanish, for example, the proportion of children not attaining mastery (that is, who did not answer at least 50 per cent of the items correctly) increases from 13.0 per cent in the urban zone to 63.2 per cent in the marginal urban zone; in the rural zones, three children in four do not attain mastery.

a) **Hindi**



b) **Mathematics**

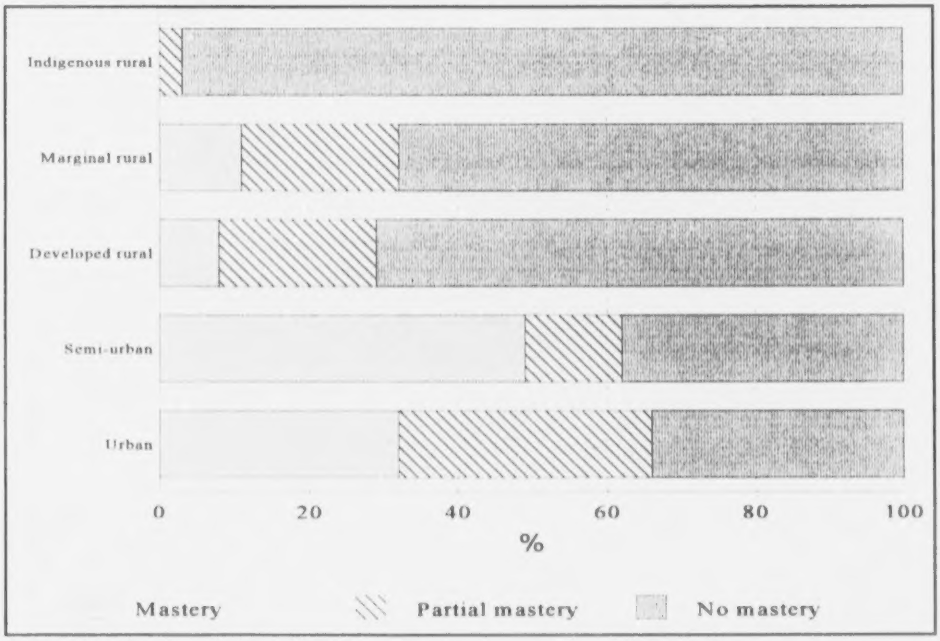
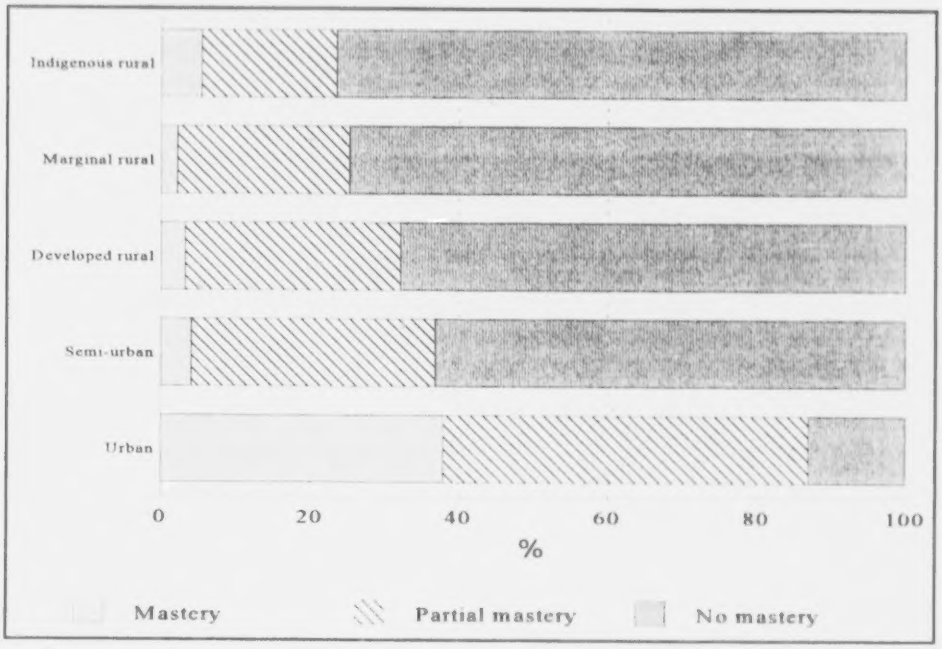


Figure VI.5. Madhya Pradesh: Distribution of Grade V pupils by mastery of Hindi and mathematics

a) Spanish



b) Mathematics

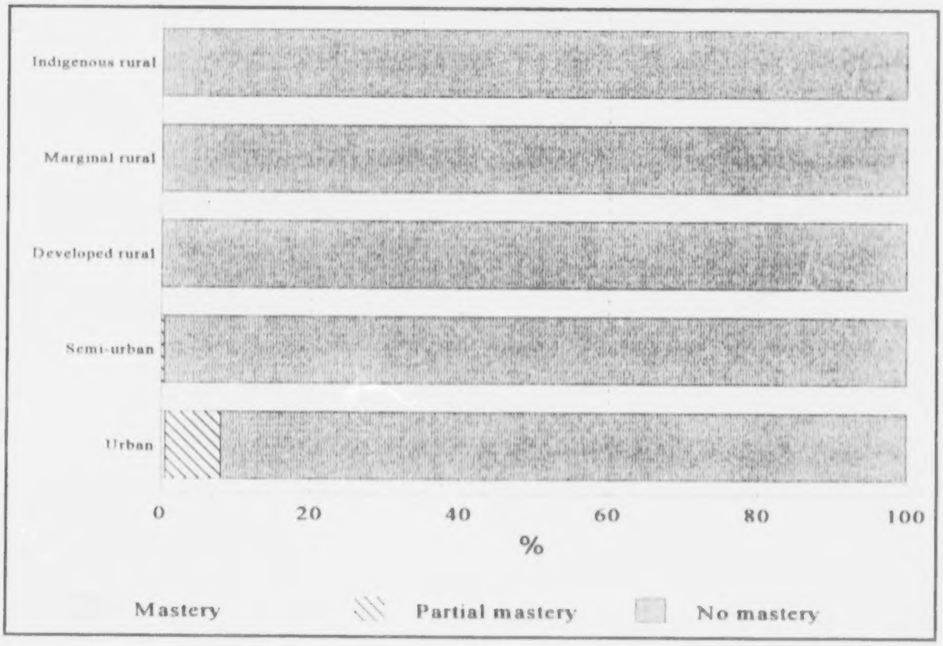


Figure VI.6. Puebla: Distribution of Grade VI pupils by mastery of Spanish and mathematics

In the field of functional use of mathematics, the results are lower. Even in the urban zone, nine children out of ten were unable to reach the threshold of 50 per cent correct answers. This was true of virtually all children in the other zones. These results can be explained by the way the test was designed, and by the hypotheses on which it is based. As has been indicated, the Mexican panel wanted to measure not the pupils' knowledge as such, but their ability to use this knowledge to solve everyday problems. As a result of this approach, the mathematics test consists mainly of problems whose solution requires logical reasoning that is often quite complex. By way of illustration, here is one of these problems formulated in the form of a multiple-choice question.:

Peter's father asked him to buy five eggs, half a kilogramme of flour, a kilogramme of beans and a kilogramme and a half of tortillas. He gave Peter a 20,000 peso bill, and Peter brought back 14,255 pesos. His father got angry because there were 375 pesos missing. Given that:

- a dozen eggs costs 2,400 pesos,
- a kilogramme of flour costs 1,240 pesos,
- a kilogramme of beans costs 3,000 pesos,
- a kilogramme of tortillas costs 750 pesos,

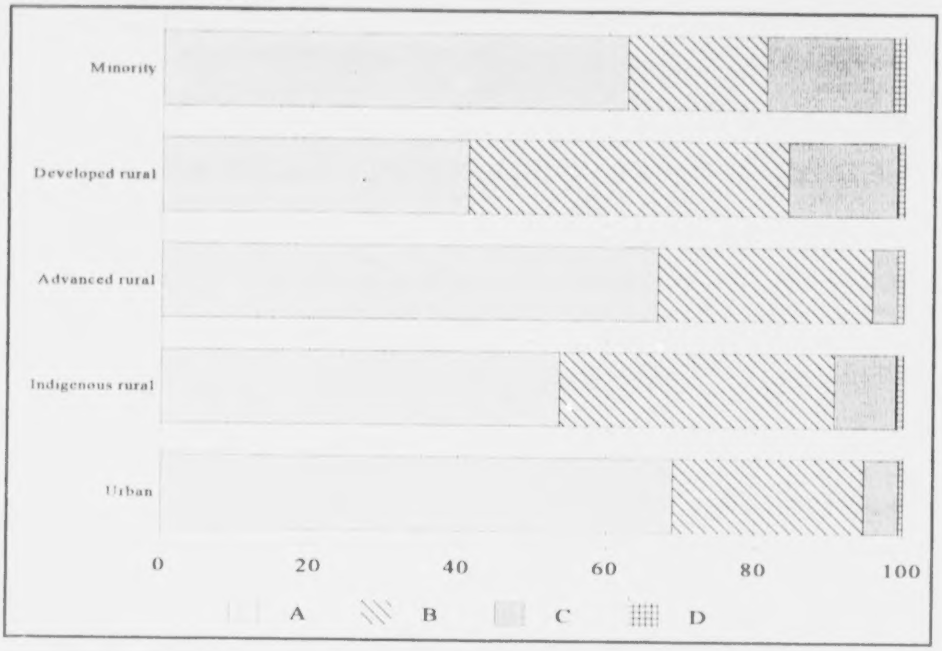
Who was right? (a) Peter; (b) his father; (c) neither.

In Grade VI, 41.1 per cent of urban zone pupils chose the correct answers and only 34.9 per cent of marginal urban zone pupils did so.

- *The case of China, Zhejiang*

In Zhejiang, the analysis differs significantly between the mathematics and language results (*see Figure VI.7*). Ninety-two per cent of Grade VI children achieved basic attainment or higher (i.e. obtained a score of 'A' or 'B') in mathematics, compared to only 67 per cent in language. In mathematics, the differences between sites are minimal: everywhere at least 80 per cent of pupils scored 'A' or 'B', and the number of students obtaining only 'D' is very small or completely absent.

a) Mathematics



b) Language

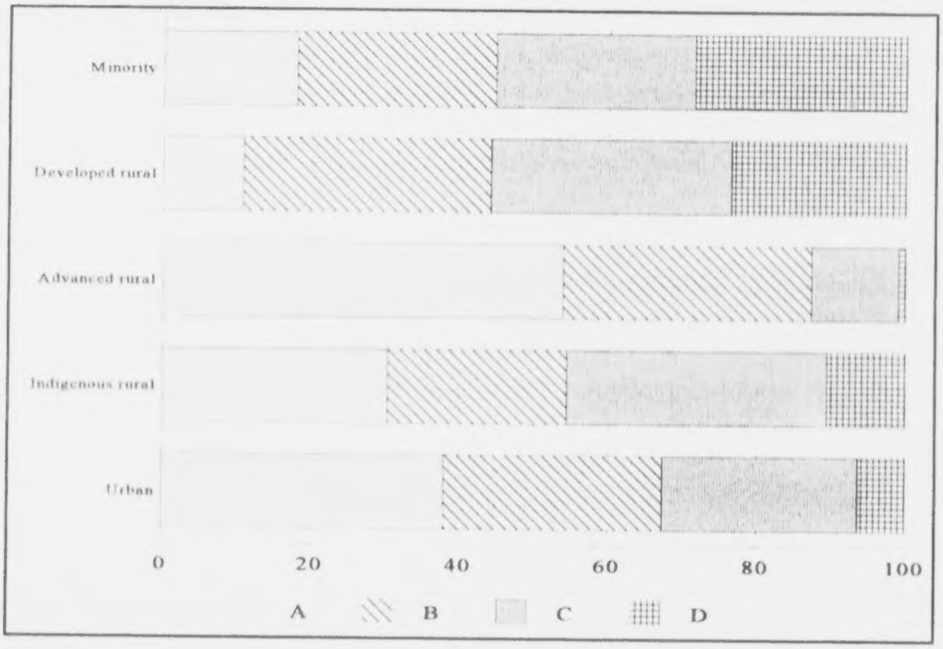


Figure VI.7. Zhejiang: Distribution of Grade VI pupils by results of mathematics and language

For the language test, the differences between zones are more marked, and the overall results poorer, especially in the minority and developing rural sites. There, less than half of pupils have obtained the basic literacy skills at the end of primary education. This is the case for about 70 per cent of pupils in the urban site and almost 90 per cent in the advanced rural site. In the two least developed sites, about one out in four pupils has completely failed the language test. As indicated earlier, these poor results in language may be related to the difference between the language spoken at home and used in school and by the poor language mastery of teachers themselves.

In mathematics, pupils scored consistently better on the first item: arithmetic operations, and worst on the third item: geometric figures, while the second item, arithmetic application, received an average score. This is a good reflection of the curriculum, as indeed the first two items are supposed to be covered in the first four grades, with stress on item one. The third item is officially covered only in Grades V and VI.

(iii) General remarks on the differences among zones

One observes, in all four countries, an overall better performance in urban than in rural schools. This is hardly surprising, because the quality of educational services is no doubt higher in cities, and the family environment, from the point of view of parental level of education or socio-professional category, more propitious for education. But the situation is not at all the same in each country and reasons, specific to each of them, also come into play.

In Guinea, the superiority of urban zones (especially in written communication) is also due to the fact that the language of instruction at primary level is French, a language very rarely used in the home, except in a tiny minority of families. Familiarity with French, that is, the opportunity to practise the language, either by hearing it on television or on the radio which broadcast programmes in French, or by speaking it with one's parents or classmates, constitutes a definite advantage for success at school. Now the familiarity with French is more likely in towns and cities than in the remote countryside. It is interesting to see that where language knowledge plays a less important role, as in mathematics, the urban sites do not systematically outperform the rural ones.

In Madhya Pradesh there is a different reason that contributes to explaining the better performance of urban zones, namely the presence in cities of private schools, whether aided or not. The results of these schools are in fact clearly superior to those of government schools, as *Table VI.5* illustrates.

Table VI.5. Difference between students' results in government and private schools in Indore and Gwalior (marks out of 100)

Grade V	Government schools	Aided private schools	Non-aided private schools
Hindi			
Mean	39.35	66.48	74.03
Standard deviation	18.17	17.02	16.16
Mathematics			
Mean	37.67	77.19	60.76
Standard deviation	29.28	38.01	16.30

The marks practically double as one moves from public to private education. This difference between government and private schools will be covered in more detail at a later stage.

The contrast in Puebla is not just one of urban versus rural zones. In fact, the results of the marginal urban zone are comparable to those of rural zones, and are actually lower than those of the developed rural zone. As in the case of Madhya Pradesh, the urban zone of Puebla also has private schools, attended by children of wealthier families, where the results are better than in most public schools. But even the public schools of urban Puebla are very different from other public schools, whether in the marginal urban zone or in rural zones. This difference consists primarily in the stability of the teaching staff. As has been seen, not only do teachers in urban Puebla have more professional experience, but they have also stayed longer at the school where they teach, and they do not express a desire to change schools. On the other hand, dissatisfaction of teachers in the other zones is patent. Many wish to change schools, others seek to leave teaching altogether and devote part of their time to taking courses in order to achieve this goal. This suggests that their morale and motivation are rather low.

In Zhejiang, the urban-rural contrast applies only to some extent. The average child in the urban zone indeed performs better than the average rural child. But this is only the case when the four rural sites are taken together. Looking at each of the five sites separately, the advanced rural one emerges as the best performer. The differences between sites in particular in mathematics, are smaller than in the other cases. As regards language, where the same factors mentioned for Guinea apply, the two most remote and least developed sites perform significantly below average. The fact that in Zhejiang, when compared to Madhya Pradesh and Puebla, the test results are generally higher and regional disparities seem less marked, is not really surprising, as it can be deduced from the information in previous chapters that almost everywhere in Zhejiang, the basic requirements for quality teaching at primary level are satisfied.

III. Variation by school

While the variation by location is strong, the variation by school is even stronger. The coefficient ρ (Rho) of intra-class correlation, calculated from the results at the end of primary, takes on the following values[5]:

Guinea:	French	0.343	Arithmetic	0.246
Madhya Pradesh:	Hindi	0.595	Arithmetic	0.701
Puebla:	Spanish	0.559	Arithmetic	0.466

This means that between 25 per cent and 70 per cent of the variance in test results is related to enrolment. This particularly high proportion (much higher than that observed in industrialized countries) can be the result of various factors:

- *local* or geographic, in the sense that different school catchment areas are inhabited by populations with unequal advantages in educational terms. This is the difference one can observe between urban and rural zones;
- *structural*, when official or unofficial selection practices result in certain institutions admitting only the 'good pupils', while others are reserved for the 'not so good'. This may be the case, for example, of private versus public education;
- *qualitative*, when certain schools provide better education than others, because of the competence or motivation of their teachers, or because of better school infrastructure.

For reasons mentioned earlier, no such statistical analysis was carried out in the case of Zhejiang, China.

Given this high variation among schools, more detailed information was collected in Madhya Pradesh and in Puebla, with a view to analyzing what distinguishes a high-performance school from a low-performance school.

(i) Differences between high-performance and low-performance schools in Madhya Pradesh

In the State of Madhya Pradesh, it would seem that the above three factors have joined forces to cause very strong variation in school results, as indicated by *Figure VI.8*, in which the schools have been classified, within each of the zones, by the average Hindi mark of all pupils. The arithmetic mark has also been included for the purpose of comparison[6].

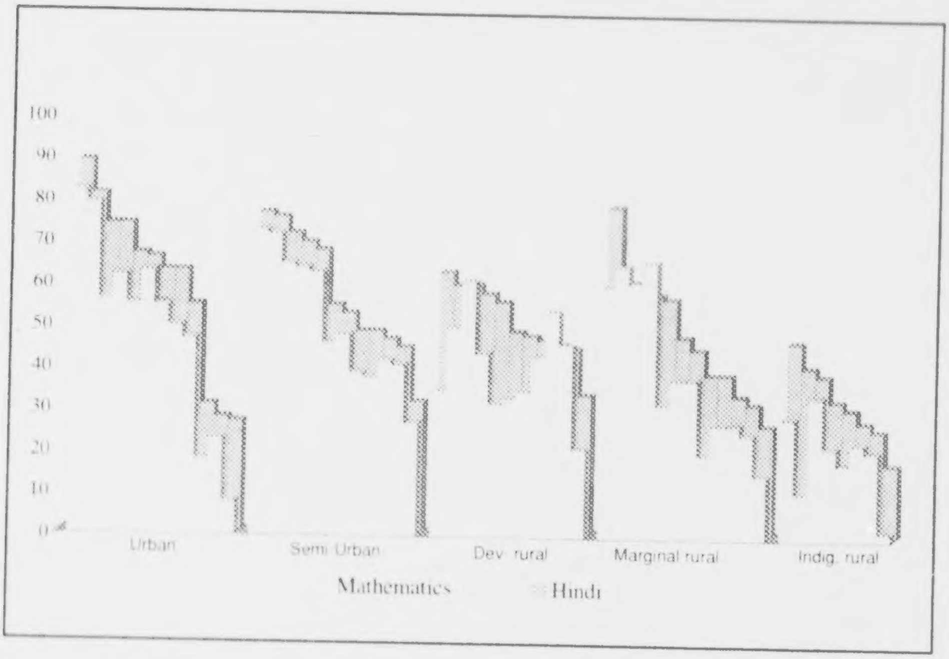


Figure VI.8. Madhya Pradesh: Average mark per school (Grade V)

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6. The mark is expressed as a percentage of items correctly answered by the pupil.

The Hindi mark is generally higher than the arithmetic mark, and the correlation between the two is very strong in the urban and semi-urban zones (Indore and Gwalior), but a little less so in the rural zones[7].

The difference in mean marks by school is very large and statistically significant in all zones except Mandla, the zone with an indigenous population, where the number of pupils who took the test is too small (see *Table VI.6*).

As regards the difference among schools, it is particularly large in the urban zone of Indore, where one finds both the worst and the best. The Hindi marks vary from 88.4 per cent in a prestigious private school, to 25.7 per cent in an anonymous government school. In arithmetic the spread is even greater, with marks ranging from 75.2 per cent to 8.0 per cent (in the same two schools). This difference is due mainly to the parallel existence of private and public schools. It is in the public schools that the results are worst. How can one explain this state of affairs? The reasons are actually quite varied but partly related to one another.

Table VI.6. Madhya Pradesh: Variation in Hindi and arithmetic marks by school in four locations

Variation in Hindi and arithmetic marks in Grade V	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*
Hindi				
Maximum	88.4	76.5	61.6	78.5
Minimum	25.7	31.4	44.4	26.0
Value of ρ	0.666	0.451	0.233	0.445
Value of F	73.32*	20.37*	6.43*	9.62*
Arithmetic				
Maximum	75.2	64.7	57.0	60.2
Minimum	8.0	26.8	19.8	14.1
Value of ρ	0.673	0.291	0.269	0.525
Value of F	75.64*	10.68*	7.60*	12.86*

* Significant < 0.1 per cent

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[7] The correlation coefficients are as follows: Indore 0.8648; Gwalior 0.7395; Rajnandgaon 0.6913; Rewa 0.7399; Mandla 0.5544.

The infrastructure of urban government schools, while better than that of rural schools, is of rather poor quality and badly maintained. Pupils' supplies are quite rudimentary. But it should be stressed above all that these schools operate with two sessions. The first session starts early in the morning, but both pupils and teachers tend to arrive late. For example, the survey of the schools shows that, while classes theoretically start at half past seven, teachers do not arrive until half past eight or even nine. Since the first session ends at half past ten, the actual time available for teaching is very limited[8]. Teachers in government schools, while professionally qualified and competent, are hardly motivated at all. Revision lessons are rarely organized; exercises in class are given irregularly and are not always corrected; homework is even less frequent and is usually corrected collectively in class. In fact, a common pedagogical method is reading of the textbook by the teacher. The authority of headteachers, their role of supervision and guidance of their colleagues are very limited. Laissez-faire and indifference are the order of the day. Finally, the pupils come from disadvantaged backgrounds. They often have neither textbooks nor school supplies, and they come to school with empty stomachs. It is not surprising under these conditions that the results are very poor.

The situation is quite different in private education, especially from the management style point of view. Headteachers devote themselves to school management on a full-time basis. They closely supervise the work of teachers and monitor the progress of pupils. The teachers are not more qualified than in public schools, nor better paid (rather less, in fact), but they are punctual and rarely absent. Their timetables are prepared in advance and they follow them. They keep an agenda in which they have to write down all the activities of the day. The different subjects (notably Hindi and arithmetic) are generally taught by specialized teachers. Individual work to be done in class or at home is frequently assigned. Evaluation is strict and regular, and parents are kept informed about their child's work. The pupils come from fairly comfortable families, and their parents have rather high levels of education. Such circumstances naturally lead to better results.

The situation in the urban zone of Indore also applies, almost without exception, to the semi-urban zone of Gwalior, where public and private education co-exist.

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[8] Govinda, R. ; Varghese, N.V. 1993. p. 220.

Figure VI.9 shows the relative performances of these two types of education in both zones. Private education results are systematically better.

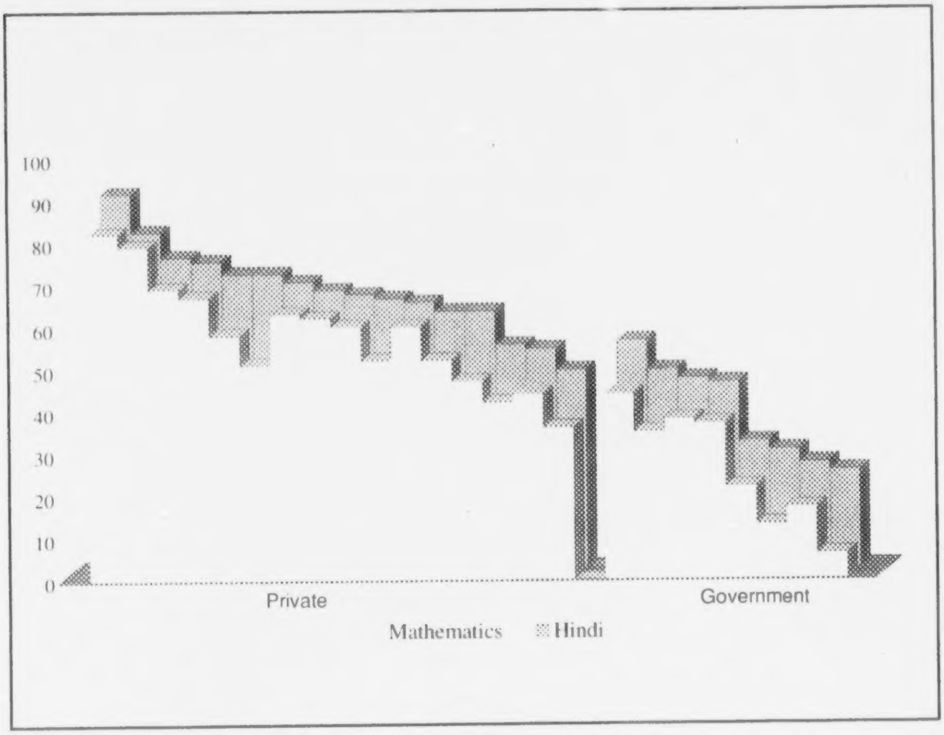

Figure VI.9. Madhya Pradesh: Public and private education in Indore and Gwalior

It is of particular concern that government schools in urban zones yield even more mediocre results than the same schools in rural zones (see *Table VI.7*). The results of public schools in the urban zone of Indore are just above those of schools in the indigenous rural zone, even though this zone has virtually no advantages as has been seen. Similarly, the results of public schools in the semi-urban zone of Gwalior are at the same level as those of the other two rural zones. Restricting the analysis to public schools alone, the results tend to be worse in the city than in the country. In the city, one finds genuine segregation between more advantaged children, who attend private schools, and children with more modest backgrounds, who have to make do with public schools. These circumstances explain both the markedly superior performance of private schools, and the fact that government school results are worse in urban than in rural zones, as just noted.

Table VI.7. Madhya Pradesh: Comparative results of public education in the five locations

Hindi and mathematics marks in Grade V (Mark out of 100)	Urban *Indore*	Semi-urban *Gwalior*	Developed rural *Rajnandgaon*	Marginal rural *Rewa*	Indigenous rural *Mandla*
Hindi					
Mean	33.64	44.45	48.29	44.19	30.87
Standard deviation	17.69	16.57	17.01	20.02	9.40
Arithmetic					
Mean	20.56	36.40	36.23	32.54	20.30
Standard deviation	16.80	18.09	18.28	20.87	11.89

In the developed rural zone of Rajnandgaon, the school infrastructure is not entirely satisfactory, but nevertheless acceptable: all schools have their own buildings, even if they do not have separate rooms for each class. Virtually all Grades IV and V classes have a blackboard and chalk. Teachers generally have no pedagogical training, but they do have much professional experience. The mean results of these schools are rather heterogeneous, varying from 32.7 to 62.3 per cent in Hindi, and from 21.2 to 61.3 per cent in arithmetic.

In the marginal rural zone of Rewa, the spread in average marks by school is even greater, for they run from 26.0 to 78.5 per cent in Hindi, and from 15.4 to 66.5 per cent in arithmetic. In fact, the best schools of Rewa have results comparable to those of certain urban schools.

The results of surveys of high- and low-performance schools in Rajnandgaon and Rewa are summarized in the following paragraphs[9].

In the low-performance schools, there are certain common characteristics: even though teachers sometimes prepare work plans, they do not follow them strictly. They all just read the textbook. Explanations are not very clear and few questions are put to pupils. There are never any revision lessons, and homework is assigned irregularly. The great majority of pupils have no textbook and no school supplies.

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[9] Govinda, R. ; Varghese, N.V. 1993.

In the high-performance schools, the teaching style is quite traditional, but teachers usually draw up work plans and then keep to them. This gives them the possibility of preparing their class. They do not just read the textbooks, but provide additional explanations. They often use the blackboard to stress certain words or to reinforce certain sentences. Class exercises are frequently assigned and systematically corrected. Homework is also assigned more frequently. The pupils all have textbooks and are regularly questioned. They themselves ask questions on occasion.

The situation in the indigenous rural zone of Mandla is very particular. The population is highly dispersed, and all the schools have multigrade classes. The children come from very modest backgrounds, and the educational level of the parents is very low. The language used by the family is generally not Hindi. Consequently, it is not surprising that average marks are very low, ranging from 17 per cent to 40 per cent in Hindi, and from 2 per cent to 33.7 per cent in arithmetic.

While the overall level is low, there are nevertheless significant differences by school. Both the Mandla school with the highest marks, and the one with the lowest, are single-teacher schools. Neither of them has a school building. The main distinction between them is the teacher's style.

In the low-performance school, the teacher comes from the community and lives in the community. He is a university graduate. This might seem, *a priori*, an ideal situation for this community. Unfortunately, since the teacher has no pedagogical training, his salary is only 300 rupees per month. He does not come to school regularly, never prepares lessons, rarely uses the blackboard, and does not conduct the class in a systematic and orderly manner. Teachers often complain about their salary and manifest total dissatisfaction with their work. Neither teaching nor learning actually occur in class.

In the high-performance school, the teacher is not from the community and must travel 12 kilometres to come to school. However, the teacher has taken pedagogical training and therefore receives a decent salary. He also has much professional experience. Although he lives far from the school, he comes to class regularly. Lessons are prepared and a pre-determined work plan is followed. The pupils are divided into small groups by level. They frequently have to do class exercises and homework; these exercises and the homework are regularly corrected. There is nothing terribly original in all this, but it is a school that functions better than the others.

(ii) Differences between high-performance and low-performance schools in the State of Puebla

In the State of Puebla, Mexico, disparities among schools are also very great, as shown by *Figure VI.10.* Taking all the schools together, the average mark in communication varies from 81.2 per cent in the best school of the urban zone of Puebla to 7.9 per cent in the weakest school in the marginal rural zone. This gives a sense of the abyss separating these schools. The mark in mathematics is generally lower than that in communication. But as noted, the mathematics test in Puebla is particularly difficult, because of the definition of basic skills.

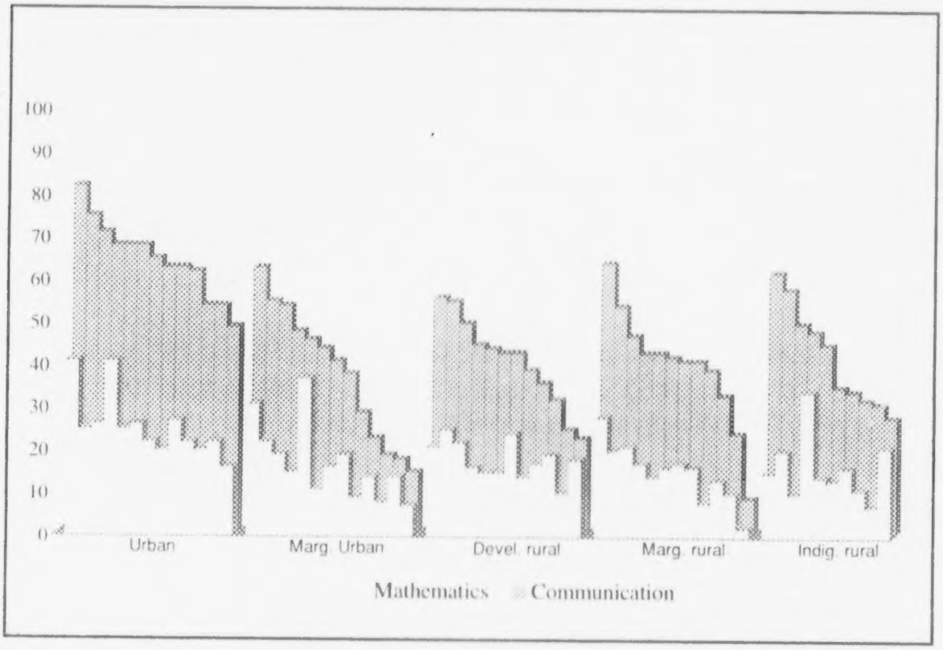

Figure VI.10. Puebla: Mean marks by school (Grade VI)

The correlation between communication and mathematics marks is not very high, but nevertheless statistically significant[10]. It is in the urban zone that variations are least pronounced (see *Table VI.8*).

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[10] The coefficients of correlation between the communication and mathematics marks are as follows: Urban zone 0.5699*; Marginal urban zone 0.5443*; Developed rural zone 0.4981*; Marginal rural zone 0.6525*; Indian population zone 0.4466*. (* significant < 0.1%).

On the other hand, they are particularly high in the marginal urban zone (ρ = 0.548 in communication and 0.528 in mathematics) and in the marginal rural zone.

Table VI.8. Puebla: Variation in mean marks by school in communication and in mathematics in the different zones

Variation in communication and mathematics marks Grade VI (Mark out of 100)	Urban *Puebla*	Marginal urban *Libertad Tecola*	Devel. rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlan*	Indigenous population *Cuetzalan*
Communication					
Maximum	81.2	62.1	55.7	63.0	60.8
Minimum	48.5	14.2	23.6	7.9	28.7
Value of ρ	0.199	0.548	0.384	0.350	0.458
Value of F	6.73*	21.36*	11.73*	4.41*	7.34*
Arithmetic					
Maximum	43.8	38.8	27.6	31.1	35.7
Minimum	16.7	9.6	10.7	2.7	8.4
Value of ρ	0.356	0.528	0.161	0.464	0.215
Value of F	13.71*	19.82*	4.30*	6.48*	3.05*

* Significant < 0.1 per cent

To try to understand the reasons for this high variation by school, the Mexican research team also selected, on the basis of the marks in communication and the application of mathematics, a high- and a low-performance school in each zone, with the exception of the marginal rural zone[11]. There, no high-performing school could be identified. For each of these eight schools, a detailed qualitative monograph was drafted, covering the school's environment, its infrastructure, the teachers, the educational process, the pupils and their parents. The main conclusions of these monographs can be summarized as follows:

In the urban zone of Puebla, the high- and low-performance schools have a number of characteristics in common. Both are complete schools with a teacher for each class. Both have satisfactory infrastructure and, according to the teachers, both have the necessary teaching equipment and materials: pupils have the textbooks they need, their furniture is in good condition, and they are comfortably arranged in their classroom.

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[11] Schmelkes, S., et. al. 1996. pp. 127-128.

The size of the teaching staff is approximately the same: 19 (including three men) in the first case, 17 (again with three men) in the second. The two headteachers have no classroom responsibilities and spend all their time on the management of the institution. The pupils in the two schools also seem to be rather similar. They have relatively favourable living conditions, most of them attended pre-school, and their age corresponds to their class of enrolment

What then makes the difference between these two schools? Essentially the role of the headmaster, the attitude of the teachers and their teaching styles, the family environment of the pupils and the interaction between the parents and the school.

In the high-performance school, the female headteacher often goes into classrooms and takes up subjects such as punctuality, academic matters, discipline and respect. Observation of Grades IV and VI classes shows that teachers prepare their lessons, and know how to animate the class and achieve pupil participation. The three teachers who were interviewed all state that they deliberately chose a teaching career because they like children, and that they are not prepared to change even if given an opportunity. They claim that teachers are rarely absent, and they think the quality of the school has improved because teachers have the means required to teach, they take an ever growing interest in their work, and are better prepared. The parents in the area are liberal professionals, merchants or salaried employees. They see the teachers quite frequently to discuss their children's results. They help their children with homework. Outside school the children read stories, magazines or encyclopaedias.

In the low-performance school, the female headteacher only visits classes out of necessity or when there are urgent problems to solve. Observation of classes shows that the Grade IV female teacher does not thoroughly know the material she teaches, and makes mistakes in her presentation. It also shows that the Grade VI teacher tends to read his textbook before providing additional explanations. Of the three teachers who were interviewed, two would like to change profession for economic and family reasons, and are taking courses with a view to this end. They say that teachers are sometimes absent for reasons of health, transportation or trade union duties. They think that the quality of the school has deteriorated because parents are uninterested in the studies of their children, and because teachers lack motivation. They complain about not having teacher's guides, teaching materials and pedagogical support. They also complain that classes are too large, the work-load too heavy, and pupils not very interested. In this case the parents have more modest backgrounds. The fathers work in construction or as truck drivers, and the mothers as domestic help. They very rarely see the teachers, and do not help their children with their school work. The only reading materials available to the children are their school textbooks and comic books.

In the marginal urban zone of Libertad Tecola, both the high- and low-performance schools are complete schools that follow the morning session. However, they are rather different in their organization and their situation.

The high-performance school is a large school located near a road. Eleven teachers work there, each responsible for a pedagogical group at a single level. The headteacher has received appropriate training in school administration; he has no classroom duties and devotes himself entirely to management of the institution. Classes are visited daily to handle both pedagogical and administrative problems. In this school the Grade IV teacher has a very traditional approach. She is rather authoritarian in the maintenance of discipline. On the other hand, the Grade VI teacher is more liberal from the class discipline point of view, but she provides clear and easily understandable examples, and obtains good pupil participation. The teachers who were interviewed said they were rarely absent. The pupils' parents have various professions: administrative controller, mechanic, taxi driver, roofer, plumber, painter, carpenter or labourer.

The low-performance school, on the other hand, is a small school located almost 4 kilometres from the road. The staff consists of only three teachers – the teacher who fulfils the role of headteacher is also responsible for a class, and the other two have classes with multiple grades. One teacher in this school has both Grades IV and VI pupils in her group. She follows a somewhat complicated teaching method, using vocabulary that is not at the pupils' level, and providing unclear explanations. The children seem very timid and hardly participate. What is taught should have been learned in previous grades. The teachers interviewed admitted that they were sometimes absent because of transportation problems: the school is on the other side of a lake and it is very difficult to get there when the boat service is not running. The pupils' parents in this case are all farmers, who work in the fields within the community itself.

In the developed rural zone of Zacatlán, the high- and low-performance schools again have many characteristics in common. Both are complete schools with one teacher per grade. Both headteachers have received the required training in school management. Both operate during the morning session and have adequate infrastructure, with classrooms in good condition, running water, electricity, toilets, a sports field, a school yard and an office for the headteacher. In both cases the pupils received their school textbooks on time. What distinguishes them is again, first of all, the attitude and teaching style of the staff, but also the characteristics of the parents and pupils and the role of the headmaster.

The high-performance school has 12 teachers (six men and six women) and one instructor specializing in physical education. The headteacher does not teach classes. Four members of the teaching staff have another remunerated activity outside class hours (as an English teacher, a farm administrator, a truck driver and a labourer). They all claim that the activity brings in more money than their teacher's salary. Rather paradoxically, it is in this school that the classes are largest (42 pupils in Grade IV and 54 pupils in Grade VI). The teachers encourage pupil participation when presenting a lesson, they motivate the pupils and give them a balanced presentation of theory and practice. Pupils participate actively either by answering questions by using the blackboard. Disciplinary problems do not arise and the pace of the work is acceptable. Almost all the pupils of this school went to pre-school. Outside class hours they read stories, magazines and the catechism. A majority of the fathers completed primary education, and have various occupations, working in commerce, transportation, agriculture or, in some cases, as labourers.

In the low-performance school the classes are less crowded, with an enrolment of only 27 in Grade IV and of 37 in Grade VI. The school has seven teachers (four men and three women) and the headteacher is not free of teaching duties. One of the teachers also has an outside activity that, as above, brings in more money than his salary. The three interviewed teachers all stated that they became teachers because they had no other possibilities. The teachers in this school are more theoretical and abstract in their methods. They put forward concepts but do not give pupils the opportunity to reflect as a group. They talk constantly and barely leave any time for pupil participation. During observation of the Grade VI class, it was noted that the teacher did not know the theme she was to present, and that her lesson had not been prepared. No pupil from this school went to pre-school. The pupils did not read outside class hours. Their fathers did not complete (and, in some cases, did not even attend) primary school, and they all worked in agriculture within the community itself.

No school in the marginal rural zone could be considered high-performing. Hence, the same analysis of high- and low-performing schools could not be carried out.

Finally, in the Indian population zone of Zacatlán, the high- and low-performing schools once again are superficially similar. They are complete schools operating during the morning session. Their buildings are composed of humble materials, but both have an office for the headteacher, a sports field and running water. The teachers live within the community, in crowded housing with few amenities, and with neither running water nor electricity. They all speak *Náhuatl*. The differences between the schools are comparable to the other zones.

The high-performance school is small, with only 43 pupils. It has two well-maintained classrooms. The few school books are actually in the classrooms and accessible to pupils, all of whom have their own textbook. The two teachers are in fact a couple; the husband is the headteacher, a role for which he has been properly trained. Apart from this role, he also teaches the 'big ones', from Grade III through to Grade VI, while his wife teaches the 'little ones' in Grades I and II. The headteacher has good pedagogical abilities and knows how to get his four groups of pupils to work at the same time, without problems of discipline. He divides his lesson into several parts and, at the end of each part he gives pupils an opportunity to apply their knowledge. The language used is easily understood by all, and the method of presentation takes into consideration the average educational level of pupils. According to the couple, the main obstacle to teaching is the lack of seats for the children. The pupils of this school are bilingual and most of them attended pre-school. Their fathers work outside the community.

The low-performance school is larger, with an enrolment of 150 pupils, divided into six classes corresponding to each of the six grades. It is served by six teachers, one of whom has the responsibilities of headteacher, even though he has not received corresponding training. The school has only three classrooms, all in very poor condition, to be shared by six classes. The school's books are kept in the headteacher's office. A high proportion of the pupils do not have a school textbook. The Grade VI teacher in this school presents the entire lesson before allowing pupils to apply the new concepts. The rhythm of his presentation is too fast for most pupils. The Grade IV teacher also presents the entire lesson before moving on to applications. She uses language that is too complicated to be understood by the pupils. In the opinion of interviewed teachers, there are many obstacles to good education: inappropriate content of the curricula, shortage of teaching materials, passivity of pupils, lack of interest on the part of parents, weakness of pedagogical support for the teacher, poor physical condition of the school, and shortage of seats for the pupils. Only 20 per cent of the pupils are bilingual, and very few went to pre-school. Their fathers work in the community, mainly in subsistence agriculture.

(iii) Final observations

These detailed comparisons between high- and low-performance schools, based on the data collected through the survey and especially on classroom observations, provide for a better understanding of what makes the real difference in the quality of the pedagogical process. Often, at first sight, when one limits oneself to external aspects and to classical indicators, high- and low-performance schools seem very similar. It was found that a small school with multi-level classes produces very good results, while next door a larger school with classes separated by grade, yields very poor results. The researchers discovered a school with over-crowded enrolment that turned out a good performance, while another school, in the same environment, produced a mediocre performance, despite a much smaller class size. What distinguishes high-performance schools from low-performance ones is in fact a set of factors that interact with one another, and that either favour success or lead to discouragement and failure. Even though infrastructure, school furniture, availability and quality of equipment and teaching materials are essential inputs, the quality of a school is more closely tied to the human factors: the role of the headmaster, the motivation of the teacher and his particular teaching style, the composition of the learners and the support they receive from their families and, finally, the relations between the parents and the teachers.

Although the research was not originally designed for this purpose, multivariate regression analyses were also carried out, whenever possible, in order to study the factors relating to variations in results between learners. The results of these analyses are presented in the *Appendix*. As far as the importance of school-related variables are concerned, they do not add greatly to the more in-depth, qualitative analysis presented above. What they do primarily provide, however, is a clearer understanding of the relative influence of specific personal characteristics of the learners, of their family background, and on their achievement. They also demonstrate that the same factors do not necessarily have the same impact in different zones (in certain zones, the impact of a given variable may be strongly positive, in another zone, very weak or nil, and yet in another, simply negative). This finding does reinforce the dominant conclusion from this research that, consequently, quality improvement strategies can only be efficient if they become more diversified and context specific.

IV. Conclusions

This last chapter has tried to answer two main questions: What do children really learn in school? What explains the difference in achievement between zones and schools? In order to find tentative answers to both questions, this research project, rather than relying on national examination results, asked a local team of experts to design tests, specifically for the project. Their purpose was to find out to what extent basic education skills (as interpreted by each team, by taking into consideration the national setting) were acquired by pupils in the fourth year and at the end of primary education. Such research clearly does not lend itself to international testing, but allows for comparisons between zones and schools within a country. The results are to be interpreted with caution, as tests are only partial measurements of results and may have their own weaknesses. The conclusions, drawn in the following paragraphs, heed this warning.

The overall results for each country are summarized first

In Guinea, very few pupils achieve mastery of language in the fourth year: about 6 per cent on average for all zones. None do so for mathematics, with less than 5 per cent achieving partial mastery. The situation improves significantly between the fourth and the sixth year in all the zones. For French, it varies from more than 60 per cent who achieve mastery in the urban zone, to 25 per cent in the marginal rural zone. This still poor result is in part a consequence of the fact that French, the official teaching language, is generally not spoken at home. However, in mathematics, the results are worse: they vary from only 30 per cent mastery in the semi-urban zone to only 10 per cent in the rural marginal zone.

In Madhya Pradesh, at the end of Grade IV, 12 per cent on average for all zones master basic Hindi skills and some 8 per cent basic mathematics skills. The difference in attainment between that grade and the end of primary is significant, but less marked than in Guinea. This is to be expected since in Madhya Pradesh, only one year separates Grade IV from the end of primary. In the fifth year, about 20 per cent of pupils, on average, for all zones, achieve mastery and another 20 per cent partial mastery in Hindi. The results in mathematics are slightly worse. This is a worrying situation, as the test was based on the official minimum competencies required at the end of Grade IV.

In Zhejiang, the results are rather encouraging: the test seems to show that, at the end of Grade IV, about 65 per cent of pupils, on average, for all zones, master basic mathematics skills and about 45 per cent do so for language. At the end of primary, this difference between mathematics and language results shows that slightly more than 90 per cent on average have attained mastery in the former, while approximately 67 per cent have done so for the latter.

Finally, in Puebla it is not possible to measure progress between Grades IV and VI, as two different tests were used. At the end of primary, the results are astonishingly bad. Less than 10 per cent of pupils on average for all zones have mastered communication skills, and none mathematics skills. Partial mastery is attained by about 25 per cent on average in communication, and a very low percentage in mathematics. This catastrophic maths result is an expression of the special test design, which analyzed not simple knowledge, but students' ability to apply this knowledge to everyday situations.

Those overall results offer some good and some bad news. The bad news is that at the end of primary education, many children have not acquired basic skills in literacy and numeracy. The situation before the last grade is naturally worse, which is particularly worrying for the pupils dropping out of school before that grade. Many primary schools and teachers were thus unable to achieve what should be their first objective: to make children literate. The argument that some tests were probably too demanding (the case in Puebla) offers little consolation, as others (in Madhya Pradesh in particular) tended to be the opposite. The good news is that schools, in spite of the difficult conditions under which they are functioning, do teach something, as is shown by the significant improvement in results between the Grade IV and the end of primary school, even if this improvement is a result both of pupil progress and of the disappearance (through drop-out) of the weakest students.

In each of the four case studies *disparities between sites*, generally to the advantage of the urban and more developed sites, were discovered. These were least marked in Guinea and Zhejiang and most pronounced in Madhya Pradesh and Puebla. The following more detailed remarks relate only to the results at the end of primary education.

It is true that, in Guinea, the urban site ranks best in mastery of French and the semi-urban site in mathematics. But the differences between the semi-developed and forest rural sites are slight. Part of the explanation could lie in the stronger selection in those sites: indeed enrolment is lower and therefore less motivated students probably do not attend at all or drop out early. The one site which consistently performs below average, is the least developed marginal rural site. The situation is, on the whole, rather similar in Zhejiang. In language, there are few differences between the scores of the urban and the more developed rural sites. The minority and developing rural zones, however, do somewhat worse. In mathematics, however, all sites perform equally well. There is no doubt that in both countries, the language factor plays a role. The difference between the language used at home and in school clearly puts the remote rural or minority groups at a disadvantage. In Madhya Pradesh, pupils' results get gradually worse from the urban to the indigenous rural zone, and disparities are marked. For instance, in the urban centre, just over 50 per cent of pupils attained mastery in Hindi, another 20 per cent attained partial mastery. In the indigenous rural site, not one pupil attained either mastery or partial mastery. In mathematics, the difference is just as significant. The other rural sites score in between. In Puebla, on the other hand, little distinguishes one rural site from another, but the contrast with the urban site is still more pronounced. The marginal urban site scores almost as low as the rural sites.

This diversity in regional disparities reflects a diversity in contexts. In Zhejiang, in all zones, the minimum ingredients for quality teaching (teacher and student supplies and control and support structures) are available. As such, the relative lack of disparity in pupil attainment is to be expected. In Guinea, the previous chapters pointed out that there exist widely different situations between the six zones, but not consistently to the detriment of the less developed zones. One can recall, for instance, that the more experienced teachers work mainly in the rural areas and that formal primary schooling has the largest tradition in the forested rural zone. In Madhya Pradesh, the relative superiority of urban zones is explained mainly by the presence of more rigorously managed private schools, which achieve much better results. There is in fact a real segmentation, with children of the well-to-do consistently attending private schools, and those with more modest backgrounds attending government schools. Indeed, when one compares attainment by public schools alone, the urban or semi-urban schools cease to outperform the rural ones. In Puebla, the regional disparities are also linked to the phenomenon of private schools, but to a lesser extent. The main difference between urban Puebla and the other zones lies in the stability of the teaching staff. In comparison to other zones, urban teachers stand out both for their longer professional experience and for having been at their current school for a longer period. Elsewhere, in both the marginal urban zone and the rural zones, the dissatisfaction of teachers is manifest and a high proportion of them would like to change schools or even to leave teaching altogether.

These different factors show that the disparities between sites and schools cannot simply be explained by the availability or lack of school, teacher and pupil supplies, considered necessary for quality teaching.

That becomes even clearer, when the focus is on *variation by school*, within the same zone. This variation can be wide. Indeed, as far as the tests used in this research are concerned, between 25 and 70 per cent of variance is related to the school of enrolment, depending on the country and the type of test (language or mathematics). This is much wider than is generally observed in the industrialized countries.

Disparities in achievement between schools within the same zone are to some extent encouraging, as they show that schools can overcome the constraints inherent in their location. In the previous chapters were already highlighted the differences in school management and teaching style, among schools which looked very similar at first glance. In this chapter, one looked deeper into this issue, by comparing high- and low-performance schools in the States of Madhya Pradesh and Puebla, to identify what differentiates these two categories of schools.

Examining only the equipment and supplies available to each school, and taking into consideration the school's formal organization (number of pupils, teachers, grades and classes), little distinguishes the high-performance from the low-performance school. Deeper observation reveals that the difference lies in human factors: the behaviour of the teacher in the classroom, the role of the headteacher, the interaction between the teachers and the parents.

In the high-performance schools, pupils are active and participate in the educational process, teachers often adopt a traditional approach, but effectively use the limited means at their disposal. They frequently assign exercises and correct them regularly, thereby promoting learning by the pupils. The parents take an interest in their children's school work and try to follow their progress.

In the low-performance schools, pupils are passive and teachers unhappy with their conditions. They complain about insufficient means, the inappropriateness of the curriculum, and parental lack of interest. The parents tend to be locked into their community and have modest aspirations for their children. Teacher discouragement is met by pupil boredom and parental passivity, and the whole cycle leads to disastrous results.

This is not to suggest that schools and teachers can perform well without any supplies or equipment, and that providing a minimum of those is thus of secondary importance. What these results imply is, firstly, that providing those inputs is not enough. Mutual support and co-operation among teachers, an efficient headteacher, parent interest and involvement are some of the other necessary ingredients. Second, even if basic inputs are absent, a school can achieve good results, precisely because those other factors do exist in that school.

Part III

Major findings and implications for planning and management

Part III

Major findings and implications for planning and management

The comparative analysis of national case studies presented in the preceding chapters has allowed one to gain a clearer understanding of how primary schools function in different countries. By placing the emphasis on the analysis of schools in their local contexts, the research revealed wide varieties in the functioning of schools and in the results they produce. Indeed, the main message emerging from the studies is probably that the typical school does not exist and that school planning and management will have to take this diversity of local situations fully into account in order to become more efficient.

In the pages that follow is a brief summary of what has been learned about the ways in which schools are operating in different settings, and some major implications for educational policy making, planning and management will be considered.

Before doing so, however, it may be appropriate to discuss one methodological outcome of this project. Indeed, apart from the substantive conclusions which can be derived from the national case studies, the research has also led to the identification of some of the critical factors to be considered when studying the functioning of schools, and to the development of a coherent conceptual framework.

I. A conceptual framework for analyzing the functioning of schools

Chart 1 presents the different factors influencing the functioning of a school and their interrelations. The basic hypothesis behind the framework is that the functioning of a school can only be properly analyzed within its *local environment*.

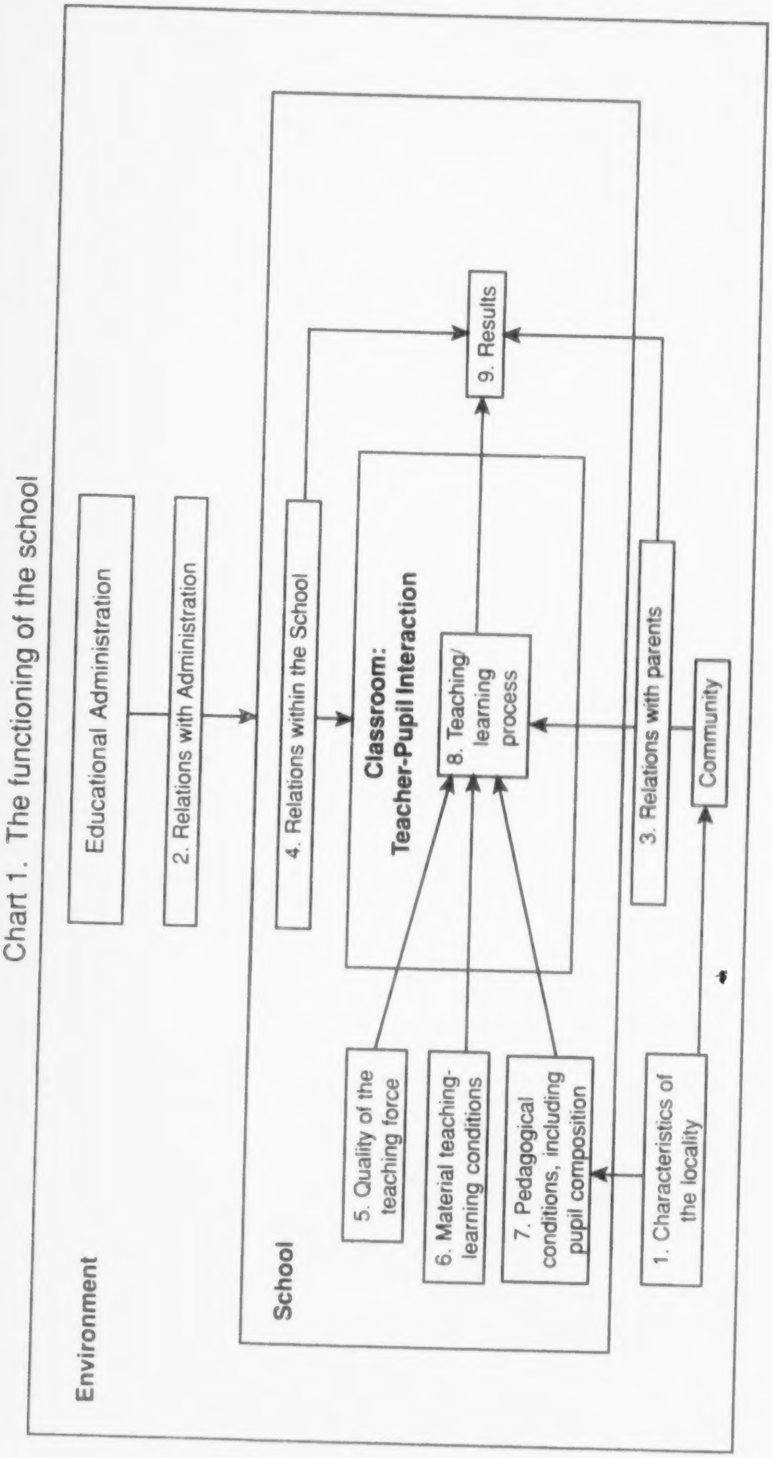
Environment
Educational Administration
2. Relations with Administration
School
4. Relations within the School
Classroom:
Teacher-Pupil Interaction
8. Teaching/ learning process
9. Results
5. Quality of the teaching force
6. Material teaching-learning conditions
7. Pedagogical conditions, including pupil composition
3. Relations with parents
Community
1. Characteristics of the locality

Chart 1. The functioning of the school

Characteristics of this environment directly influence the operation of the school in different ways: from the kind of pupils it receives, the material and human resources it can mobilize, the nature of its relations with the community, to, in particular the support it obtains from the parents. A detailed analysis of this environment is therefore required in order to understand the processes taking place in school, and consequently the variations in the results obtained. This analysis should include the geographical context, the demographic situation, the economic activities, the social structure of the community, its religious and linguistic characteristics, types of dwelling, health and nutritional situation, the level of educational development, etc.

Furthermore, the chart shows that the central element of the school functioning is what happens in the classroom. For it is in the classroom that all inputs converge and influence the particular *teaching-learning process* taking place. The way teachers teach, the way they use their time, the extent to which they involve the learners and provide them with feedback, the frequency with which they give homework and their way of correcting it, the extent to which they regularly assess the knowledge acquired, etc. are in the end what makes up the quality of a school. The daily interaction between teachers and learners is the most direct determinant of a school's results.

School results can be defined as the direct outcomes of the teaching process as measured against its objectives. From an operational point of view, the objectives of basic education are the translation of basic educational needs into terms of learning. The definition of these needs will vary from one country to another and possibly even from one region to another within a country, depending on the development context and the resources available. Furthermore, it is necessary periodically to revise the needs, and thus the objectives, in step with society's increasing capacities and evolving development priorities.

This being said, no matter what the country, the basic needs remain the knowledge, skills, attitudes and values the learners require to survive, to improve their living conditions and to continue learning. The first obligatory element in any basic education programme, therefore, is the mastery of reading, writing, arithmetic and problem-solving. These are learning tools that are essential in order to acquire and apply other knowledge and skills and they even play an important role in the formation of attitudes and values. The second element includes the knowledge, skills and attitudes needed for everyday life (concerning nutrition, health, protection of the environment, etc.).

Measuring pupils' achievements in relation to these different objectives is no easy matter, especially where attitudes and values are concerned. Within the framework of the Institute's case studies, only essential aptitudes in reading, writing and numeracy were measured.

Finally, the chart draws attention to two categories of factors which influence the teaching-learning process. The first relates to the three basic inputs into school functioning, which are the infrastructure; the learners and the teachers. More precisely, these inputs are referred to as:

- *Material teaching-learning conditions*, that is to say, the availability and quality of: school infrastructures; various equipment for the classroom; pupil supplies; guides and materials for the teachers, etc.
- *Pedagogical teaching-learning conditions*, this relates first of all to the composition of the learners, particularly the number of pupils per class, the distribution by gender, by age, by number of repeaters, by socio-cultural background, by degree of absenteeism, etc. But it also covers the pedagogical organization of the classes (single grade or multigrade, single session or multiple sessions), the programme being taught, the teaching language used, the time devoted to learning, etc.
- *Teaching staff*, the availability and quality of the teaching staff in terms of their level of education and training, experience, competence, stability, living conditions, level of integration in the community, job satisfaction and motivation, etc.

In addition to these basic input factors, the quality of the pedagogical act is even more directly influenced by the number of interactions between the teacher and other actors intervening in school functioning. The emphasis is being put on three types of interactions which are the following:

- *In-school relations*: manifestly the most important element here is the role played by the headteacher. But, as has been shown by this research, formal and informal relations with colleagues seem to be equally important in fostering teachers' attitudes and pedagogical behaviour.
- *Relations with parents*: naturally, the parents are supposed to be the most direct partners of the teachers in educating their children. This relationship therefore merits particular attention. It can be analyzed by examining (i) the level of communication between parents and teachers; and (ii) the extent to which parents are involved in

different aspects of school functioning (financial, pedagogical, managerial).

- *Relations with the administration*: although school functioning is greatly influenced by its immediate local environment, a school is also part of an overall system. Consequently, the type of relationships that exist between the school and the education administration is also crucial. Particularly important in this respect are (i) the pedagogical control and support provided to the teachers and the headteacher in carrying out their respective tasks; (ii) the extent to which they receive continuous information and clear instructions on the aims to be achieved, programmes to be taught, standards to be respected, etc. and, finally, (iii) the quality of the administrative backing on which they can count.

These three types of interactions are considered to be the basic ones which have to be part of any analysis of school functioning. But they are not the only ones which can have an impact on school functioning. Headteachers and teachers might also have direct contacts with community leaders, representatives of other development sectors, experts of Non-Governmental Organizations (NGOs), etc. In certain specific contexts, these relations may even become more significant, e.g. where a particular non-governmental organization is supporting a given school. Consequently, the framework can and should, in certain cases, be broadened to include these other relationships.

II. Major findings regarding the functioning of schools

Following the conceptual framework outlined above, the main conclusions of the comparative analysis of the four national case studies, in relation to each of the critical factors intervening in the functioning of schools, are presented.

A. The material teaching-learning conditions

In the four countries were found significant disparities between schools in the material learning conditions. But, manifestly, these disparities were much more important in Guinea and India (Madhya Pradesh) than they were in Mexico (Puebla) and China (Zhejiang).

As is to be expected, rural schools are generally at a disadvantage. This is true for school infrastructure in the first instance. As is apparent in the case of Guinea, because of the continuing financial crisis and the corresponding budgetary constraints, there is a growing tendency to mobilize local resources for building schools. This has led to a dual system: the public authorities keep the responsibility for school construction in urban areas and local communities are given the same responsibility in rural areas. The result is a clear urban-rural split. In urban zones, schools are mostly built in concrete or brick, while in rural areas, an increasing proportion is built in straw-brick or with other precarious material. In Madhya Pradesh, and even in Puebla, the same trend is visible. In many instances the situation is aggravated by the lack of sufficient funds for maintenance. In certain areas, therefore, school facilities are not only poor, but are simply becoming dangerous for the users and are calling for total reconstruction. This resulted, in the mid- and late-1980s, in the Chinese authorities launching a spectacular campaign to rebuild dilapidated schools and build new ones.

Furthermore, the same distortions between urban and rural areas are being repeated in the availability of different types of equipment and supplies for teachers and pupils. The situation analyzed in poor countries such as Guinea or in the State of Madhya Pradesh, India, has shown that in many rural schools the minimum material conditions required for any meaningful teaching-learning process to take place are simply not fulfilled. There are schools without a building but also without blackboard, without textbooks and without proper reading and writing material. Undoubtedly to guarantee that minimum conditions for teaching and learning are being fulfilled is an absolute priority for any quality improvement strategy. Unless this priority is given full attention, all other efforts to improve the functioning of schools will remain in vain.

What is needed in this respect is that the diversity of school conditions be fully addressed. In all countries, a wide variety of situations were observed with little in common. At one extreme, there is the poor rural school without a building or equipment and, at the other, the privileged urban school with the most sophisticated equipment. Such material differences are further reinforced by similar imbalances in the availability of human resources measured in terms of teacher competence, experience, stability, etc.

In the case of the State of Madhya Pradesh, India, a classification was made of different types of schools using a frequency matrix of the availability of 15 categories of equipment. This procedure allowed to identify a hierarchy of four categories of institutions as follows: (i) schools without infrastructure (which have neither a building nor benches or desks); (ii) schools with limited infrastructure (with buildings but no partitions between classrooms, and no benches or desks);

(iii) schools with fair infrastructure (with buildings and separate classrooms but no benches or desks); (iv) schools with proper infrastructure (with buildings, separate classrooms, benches and desks).

Such kind of typologies could be realized in other contexts and enriched with other variables relating to the human resources availability. They would then constitute the basis for the design of improvement measures that are diversified and adapted to the specific needs of the different types of schools.

B. Availability and quality of teaching staff

First of all, serious imbalances were noticed in the distribution of female teachers. In all of the countries studied (although less so in China, Zhejiang) the proportion of women teachers was much higher in urban than in rural areas. In the case of Madhya Pradesh, for example, the percentage of female teachers systematically drops from 93 per cent in the privileged urban zone, to 0 per cent in the remote indigenous zone. There may be good reasons for this situation which relate to existing rules and regulations, cultural traditions, etc. But, in any case, it should be borne in mind that the absence of women teachers in rural schools may be a serious obstacle to improving girls' participation rates.

Other imbalances were found to be even more preoccupying. With the exception of Guinea, teachers with higher qualifications and more professional experience are found in the privileged urban zones. They are also more stable. The general trend seems to be a continuous displacement of teachers from rural to urban zones on the basis of official criteria and of individual negotiating skills so that, in the end, the least experienced and least qualified teachers start or end up in the countryside. As noted earlier, these imbalances in the distribution of teachers reinforce those identified with respect to school buildings and equipment.

The lack of stability of teachers in rural schools is particularly worrying. Young qualified teachers who are posted to a remote area tend to try to move out as soon as possible. Consequently, they do not develop a sense of belonging nor do they build up a real commitment to the community they are supposed to serve. As has been seen, this lack of involvement is aggravated by the fact that in the same remote rural areas teachers prefer not to live in the community where they teach but, whenever there is a choice, to stay in a nearby centre where they can find the necessary services for themselves and for their families. This is the case of all countries except in Zhejiang where control of residence is strict and where, until recently, schools used to provide special quarters for all teachers. In Puebla, for example, less than 20 per cent of rural teachers reside in the location where they are posted (with the exception of the marginal rural zone, where no means of transport are available). It is easy to imagine how this situation can have a negative impact on teachers' punctuality and regularity but in addition, this physical distance problem can only reinforce the cultural gap which, as we will see later, often separates teachers from the local communities.

Yet another factor was found to seriously limit the ability of teachers to devote themselves fully to their teaching job and to invest time in improving school functioning: the involvement of a fair proportion of them in other income-generating activities (between 30 and 55 per cent according to the zones in Madhya Pradesh). This is an issue not only in rural areas, but even more so in urban ones, where private tutoring is booming.

Finally, teachers' morale was also explored, although indirectly. A first indication of this was the desire to change schools. Not surprisingly, it was found that this desire is particularly strong in the rural areas, where teachers want to move to more comfortable local centres or nearby urban areas. However, the desire to change schools is not necessarily an indication of low job satisfaction. Another question was therefore asked which related to the desire to change profession. With the exception of Zhejiang, the proportion of those who would prefer to have another job was considerable in all the countries. In Puebla, the percentages varied from 30 per cent to 55 per cent, with an average of about 40 per cent across all the zones. In Madhya Pradesh, they were slightly lower and in Guinea slightly higher. There were also variations in the distribution between zones, which reflected the specific conditions prevailing in the different countries.

As far as the reasons for dissatisfaction are concerned, it is interesting to note that deterioration of social status or declining respect from the community are hardly mentioned. Even though a considerable proportion of teachers in the three countries is of the opinion that there has been a general decline in the social status of the teacher, the vast majority consider that personally they are well respected by their communities; an opinion shared by the parents, as will be seen later on.

The main reasons given for low job satisfaction by the respondents are the salary and, more generally speaking, the mediocre living conditions. However, a more detailed discussion with the teachers in Guinea and Madhya Pradesh about their problems reveals that salary concerns are not the only ones. Teachers are also preoccupied with the lack of equipment and the shortage of teaching materials in other classes. A third problem which they often mention is that they are not properly supported by the parents. The impression that parents are not taking enough interest in the education of their children is particularly strong among teachers in rural areas. This will also be discussed in more detail later on.

Two main conclusions can be drawn from these research findings. First, there is manifestly a certain number of objective constraints in the working and living conditions of the teachers which are gradually eroding their availability and their commitment to their teaching job. Unfortunately, these constraints are not always given the necessary attention when quality improvement proposals are being worked out. Such proposals too often assume a level of involvement and dedication which is unrealistic unless complementary measures to alleviate the above-mentioned constraints are taken. The second conclusion, which is more positive, is that the margin of manoeuvre for stimulating teachers' motivation is not limited to salary increases. Professional incentives, which are more affordable and which aim directly at the improvement of the working conditions in the classrooms, could have a powerful effect.

C. Composition of learners and pedagogical conditions

The functioning of an education service – and in particular the teaching-learning process – also depends on the composition of the learners and on the pedagogical conditions which characterize a given school.

A considerable number of factors can prevent children from taking full advantage of school services being offered. In this respect, the case studies amply confirm and illustrate the well-known gap in living conditions between urban and rural zones. The proper schooling of children from rural and also marginal urban zones is often made difficult because of poor housing, lack of basic furniture at home, absence of clean water and of electricity and many other material problems.

But these difficulties of everyday life are not the only obstacles to regular school attendance. There are also problems of health and the fact that children from poor families are mobilized for various types of work at home. It is significant to see that both in Guinea and Mexico, Puebla, where this kind of information was collected, illness and work at home come out as the most important reason for children's absenteeism. In addition, children from underprivileged families have limited access to written materials (except in Zhejiang) while their parents, and in particular the mothers, have generally a very low level of education. This last factor limits the support which parents can give to their children. In all four countries studied teachers regularly assign homework to their pupils and implicitly count on parents to supervise and assist children in completing it. The information collected in this respect shows that between 30 and 50 per cent of the children, according to the zones, do not receive any assistance for their homework in Puebla and between 50 and 60 per cent in Guinea and Madhya Pradesh. The question about the effectiveness of homework should therefore be asked. Is it reasonable to expect young children in the poorest zones to do their homework properly when they have no place to isolate themselves, do not have the necessary school supplies, have not properly assimilated in school what they are supposed to apply at home and can hardly count on any family support?

In addition to the objective living conditions of the children which directly influence school functioning, parents' attitudes and aspirations were also examined in three of the four countries: China (Zejiang), Guinea, and Mexico (Puebla). It was found that in all cases, parents have a rather positive view of the school and of the teachers. They demonstrate an attitude of general trust even if large proportions of them, mainly in the rural areas, have very little contact with their children's school and teachers. The educational and professional aspirations of parents for their children confirm their generally positive assessment of schools and the high expectations which they put on the school system as an instrument of social promotion. These expectations are highest in Guinea, a young country with very low school enrolment, where people have witnessed the extremely rapid social promotion of an educated élite since independence. In all the zones, the vast majority of parents of these few children who have succeeded in overcoming the obstacles of the first grades of schooling, expect their children to continue their studies at post-secondary level (between 95 per cent and 70 per cent, according to the zones) and to enter occupations in the tertiary sector. In locations such as Puebla and Zhejiang, which have already achieved high levels of education and are characterized by a rather well-established and rigid social structure, educational aspirations are somehow more moderate and show clear difference between urban and rural zones and parents' levels of education. However, one finding is systematic in the three locations: even in the most remote rural zones, primary schooling is not considered by the parents to be an end in itself, but a basis for climbing up the formal education ladder. Also, very few parents see the future of their children in agriculture. Consequently, schools are looked upon as a privileged means for their children to escape and to move to urban areas.

As for the pedagogical conditions, the case studies confirmed the usual picture of overcrowded classes in urban areas and revealed different ways of coping with the problem of organizing schools in scarcely populated areas. In Guinea, for example, we saw that in these areas children of all ages are recruited to form one class to which a teacher is assigned. He/she then follows the same cohort of pupils up to Grade VI and it is only seven years later that a new group of children is admitted. In the other countries, the usual system of multigrade classes is being used. The issue here is that, in many instances, teachers have not been trained to handle such types of classes in an efficient way.

However, the most serious problem lies in the limited learning exposure for pupils, especially in rural areas. Official working hours are not well respected at all. Because of reasons mentioned earlier, teachers tend to come to school late and to leave early. Furthermore, the limited data that could be collected in the case of teacher absenteeism are disquieting. In Guinea, for example, more than 70 per cent of the teachers stated that they had been absent for some time during the two preceding months, with considerable variations by zone (from less than 50 per cent in the capital city with an average number of three absent days per teacher, to more than 80 per cent in the semi-developed rural zone with an average number of nine absent days per teacher). It should therefore not be at all surprising that the test results showed that some teachers do not manage to cover the entire curriculum prescribed for a given year, or are forced to do so hastily.

D. Relations within school

There is a clear trend today to consider that the headteacher has a crucial role to play in the improvement of school functioning. He/she is supposed to be the prime mover behind the quality improvement processes by stimulating pedagogical innovations and transforming his/her school into a genuine teaching-learning community.

The case studies revealed that for the time being, maybe with the exception of Zhejiang, the situation is far removed from this new vision. First of all, not all schools have a headteacher. In the rural areas many schools have only one or two teachers. In Madhya Pradesh, for instance, it was found that an official headteacher can only be appointed when there are at least four teachers. Second, in most cases, and particularly in the rural areas, headteachers did not receive any special training to prepare themselves for managing an educational institution. Third, purely administrative criteria (number of years of experience and sometimes, but not always, level of qualifications) are being used for appointing headteachers, rather than the candidates' pedagogical skills and leadership capacities. Fourth, many headteachers have full-time teaching responsibilities especially in small schools in rural areas, and therefore can only devote a limited amount of time to their responsibilities as a head. Finally, the administrative duties of headteachers are considerable, to the detriment of pedagogical supervision and support.

These are some of the obstacles facing an efficient headteachers' performance in the different countries. But, there are noticeable differences between countries. We have already mentioned the special case of Zhejiang. Here, principals play a true leadership role, investing much time in conducting demonstration lessons and in paying classroom visits and even visits to their pupils' homes. Also, in Guinea, pedagogical visits by headteachers to classes and pedagogical meetings of the teaching staff seem to be a more regular practice than in Puebla and Madhya Pradesh. In this last location a clear difference was noticed between public and private schools. In the latter ones, headteachers do not have so much a pedagogical leadership role, but they at least manage to ensure regular attendance of teachers, respect of timetables and systematic classroom preparation. They have genuine authority over the teachers and are themselves strictly controlled and/or supported by a management committee, while in public schools, headteachers lack the necessary support and authority to ensure respect for basic rules of efficient school functioning.

Manifestly, to ask a headteacher to take responsibility for the quality of the educational service and to play a leading role vis-à-vis his/her colleagues and pupils' parents, is a new demand which implies a redefinition of the rules of the game, as will be seen later on.

E. Support received from the educational administration

The support received by the teachers from the upper levels of administration was also examined. Two major types of support were considered: inspection services and in-service teacher training.

Inspection and supervision units have a key role to play in monitoring and improving the quality of education. They are the indispensable intermediaries between the schools and the education administration. Through their school visits they are supposed to supervise and support teachers both from an administrative and a pedagogical point of view. How do inspection services function in practice? The case studies present a rather diversified picture. In Zhejiang, inspection visits have been established only recently. Administrative supervision was traditionally carried out by local party leaders, while the newly established inspectors were given the responsibility of pedagogical advice. This new system is still taking shape and its functioning is therefore difficult to assess. However, the limited data that were collected on the regularity of inspectors' visits indicate a clear bias in favour of urban areas.

The situations in Puebla and Madhya Pradesh, where well-established supervisory structures exist, are quite similar. The schools that receive at least three visits a year are a small minority in practically all the zones, and a number of schools in remote rural areas do not receive any visit at all. One generally finds a link between the number of visits, on the one hand, and the distance which separates schools from the inspection headquarters and the availability of transportation facilities, on the other hand. Even more disturbing is the fact that most of these visits are simple routine inspections of a purely administrative character (80 per cent of visits in the case of Madhya Pradesh). In-depth interviews carried out in Puebla indicate that the usual visit is limited to the control of records and documents, and settling various punctual administrative matters with the headteacher and the teachers. Observation of what goes on in the classrooms is exceptional and contacts with parents non-existent. It is therefore not at all surprising that in both locations the majority of teachers consider that the support they receive from the supervisors is minimal.

In Guinea, the situation is more encouraging. The supervisory system being deconcentrated at different levels, the majority of teachers receive at least three visits in their classrooms per year. The negative bias vis-à-vis remote areas exists, but is less pronounced. Also, the supervision time seems to be more equally spread between pedagogical support and administrative control. Consequently, a majority of teachers declare that they derive great benefit from the inspectors' visits.

The other important support mechanism is in-service teacher training. Here again, the situation in the four countries studied is quite different. In Madhya Pradesh, there is a general lack of in-service training (only some 10 per cent of the teachers were exposed to brief orientation sessions during the course of their career) which only aggravates the also general lack of initial training. In Puebla, different types of in-service courses are being organized. All of them are very brief (usually less than 20 hours) and less than half of the teachers have participated in some form of training during the past two years. Finally, in-service training was found to be rather well developed in Guinea and in Zhejiang.

It is interesting to note that in all cases where in-service training programmes are organized, teachers express satisfaction with them even if, as in the case of Puebla, they express criticism about the conventional approach of the training methods applied.

An interesting finding of the study was that when asked about the usefulness of different forms of professional support received (including personal reading, model lessons, formal and informal exchanges with other teachers, interaction with the headteacher, in addition to the two forms of support discussed above), teachers invariably considered that the most valuable mechanisms of professional improvement were those that were nearest to the school: personal reading and professional exchanges with the headteacher and with colleagues. Other more remote sources of support, and especially inspection visits came far behind.

F. Relations with parents

Relations between teachers and parents were analyzed in the four countries studied. Zhejiang was found to be an exception in the sense that in this province, as in the rest of China, for teachers to do home visits is considered to be a routine activity. Class teachers are officially expected to visit the home of each student at least twice a year and the data collected confirm this practice.

In the three other countries, the contacts between teachers and parents were not as close as expected. This can be partly explained by the fact that often teachers do not stay in the places where they teach, as indicated earlier. But, there also seems to be a more serious socio-cultural gap between the two main actors intervening in children's education. It has already been mentioned that parents basically trust the teachers although they do not know the school very well, especially in rural zones. It can be added here that, at least in Guinea and Madhya Pradesh, teachers, from their side, do not look for many contacts with the families. They organize few meetings for them, do not visit homes, and a majority, at least in urban areas, recognize that they personally do not know at least half of their pupils' parents.

The situation is somewhat better in Puebla. In this case, teachers who admit that they do not know at least half of their pupils' parents are very much a minority, and meetings are also more regular. However (with the exception of the urban zone of Puebla), even in this case as in the other countries, the subjects raised during these meetings relate mainly to administrative and material issues. The overall impression is that the meetings are essentially used to remind parents about their various responsibilities (need to pay fees, to repair the buildings, to supervise their children, to organize celebrations, etc.) rather than to inform them about the school's functioning and to try to involve them in its improvement.

This confirms an overall conclusion that comes out of the in-depth interviews, namely that teachers, although they consider generally that they are respected by the community, do not feel sufficiently supported by the families. Their normal reaction then seems to be to consider parents as part of the problem and not of the solution.

This cultural gap between the teachers and the parents is probably the main obstacle to establishing closer interaction between these two partners. Whenever those interactions exist, as in Zhejiang or, as in the case of private schools in Madhya Pradesh and Puebla, the school functioning improves and so do the pupils' results.

G. The teaching-learning process

As mentioned earlier, it is the teaching-learning process that is at the heart of the quality of a school. It is in the classroom that all other factors come together and influence what the children actually learn.

Through various techniques including questionnaires, direct classroom observation and interviewing, it was possible to get some idea of what happens in the classrooms of the participating countries. In general, the teaching approach was found to be rather traditional, teacher-centred and fairly rigid or even authoritarian. More progressive methods centred on the child and based on discovery and construction of knowledge by the pupils themselves, were not witnessed in the classes observed.

However, behind this apparent uniformity, important variations were discovered between countries. In Zhejiang, little differences in teaching practices were observed between zones. Nearly everywhere, teachers seem to follow a similar pattern. They generally teach on the basis of a strict work plan, use standardized lesson preparations and keep rather tight control over their class. That does not mean that their classes are dull, neither does it exclude learner's involvement. But such involvement mainly consists of students answering the teacher's questions and completing various exercises initiated by the teacher.

In the other countries, on the contrary, great variations do occur. At one extreme of the continuum was discovered what can be called a 'chaotic teaching practice': teachers and pupils are frequently absent, the teacher does not have the competence needed to provide good instruction, does not follow a precise work plan, merely reads from the textbook without even using the blackboard, gives few examples and exercises, does not ask questions of the pupils, gives little or no homework and rarely or never sets written tests. At the other extreme is a well-structured and efficient teaching process: teachers and pupils are rarely absent, the teacher masters the subjects and knows how to present them, teaches according to a precise plan, presents lessons in a structured fashion, makes pupils take an active part, frequently uses the blackboard and other teaching aids, gives examples, alternates explanation and exercises, gives homework frequently and corrects it individually, sets regular written tests and informs both pupils and parents of the results.

Unfortunately, a good number of classes observed, especially in the least developed rural areas, fall into the first extreme. This should be no surprise, given earlier findings about the appalling material conditions of learning in the same schools and the poor quality of their teaching staff (little or no professional training, instability, low morale, etc.). However, it was noted that even within the same zone there are always teachers that do much better than others. Such individual differences invariably have to do with the personal motivation of the teacher, which is a function of his/her relations with the parents and the community, the general climate of the school and the role of the headteacher, when there is one. In more general terms, it was found that differences in the teaching practices between different types of schools are, to a large extent, influenced by the intensity of the internal support and control structures that teachers are benefiting from. Together with some cultural differences, this largely explains why Chinese teachers generally perform rather well, and it was also found to be the main reason for the differences observed between private and government schools in Madhya Pradesh.

H. School results

As explained earlier, within the framework of this research, attention was focused on the essential aptitudes in reading, writing, arithmetic and problem solving, using country-specific tests for measuring learners' achievement.

The main conclusion from the analysis of learners' achievement scores can be summarized as follows:

1. Except for Zhejiang, the test results were not at all encouraging. Large proportions, and in certain cases even a majority, of learners who have overcome the different hurdles on their way through primary school do not master the basic communication and calculation skills at the end of primary school. In the case of Guinea, for example, the proportion of pupils having acquired mastery of written communication skills at the end of primary school varies from 60 per cent in the capital city of Conakry to only 25 per cent in the marginal rural area of Labé. In the field of mathematics, the results are more alarming, since the proportions here vary from 30 per cent in the best zone (the semi-urban area of Kankan) to only 10 per cent in the worst zone (again the marginal rural area of Labé). Manifestly, many schools do not achieve their main objective, which is to make children literate. The results are scarcely more encouraging in Puebla and Madhya Pradesh. This is not the case in Zhejiang where, as compared to the other countries, the teaching-learning conditions are generally good in terms of equipment, quality and motivation of teachers and school management and support structures.

2. However, when differences were measured between the scores obtained by learners in Grade IV and in the last grade (either VI or V depending on the countries), there was a significant improvement which is systematic in all the zones in all countries[1]. This improvement, may be partly due to further selection of learners but manifestly learning does take place even in schools where minimum teaching-learning conditions are unavailable.

3. In all the countries one finds a clear correlation between the test results and the urban-rural classification of schools. The pupils' scores improve as one moves from remote rural areas to privileged urban areas. This is to be expected, because the teaching-learning conditions vary, as does the family background and the level of education of parents. But other more country-specific factors also intervene, such as a greater familiarity in the urban zone with the language used in schools, mainly, but not exclusively, in the cases of Guinea and Zhejiang; the presence of private schools in urban areas in Madhya Pradesh and in Puebla, etc.

4. A detailed analysis of the test results shows that one of the main causes of the poor results is that, for the many reasons indicated earlier, parts of the curriculum have not been covered in certain schools. In

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[1] In Mexico no such analysis could be done, because the tests administered to the two grades were different.

Guinea, for example, children did not acquire certain areas of knowledge simply because they were not given the opportunity to learn them. In Puebla and Guinea, the same analysis also indicated that the capacity to apply practical skills and mainly mathematical operations to solve everyday problems is extremely low. Increased and more efficient use of learning time and less emphasis on rote learning remain two priority areas for quality improvement of primary schools in most countries.

5. In spite of the strong correlation between the level of development of a zone and the average achievement scores, an analysis by school indicates that variations between schools within the same zone are extremely large. Furthermore, some schools in remote rural areas do perform as well, if not better, than schools in privileged urban areas. This is encouraging because it shows that schools can do well in spite of the difficult circumstances under which they are operating. From a management point of view, the question is to know what makes the difference between a high-performing school and a low-performing school.

The high-performing and low-performing schools are of course relative, since it has been seen that in general the test results were rather low. Nevertheless, some schools are doing better than others and the question is why?

III. The difference between a high-performing and a low-performing school

Here again, it is difficult to generalize and there is certainly not one single factor, or a few factors in isolation, which explain differences in performance. What is important is the way in which different components, which enter into the teaching-learning process, interact with each other and this interaction is highly context-specific. Nevertheless, some more general conclusions summarized below, can be derived from the analysis.

1. *Material conditions of teaching* are important. Manifestly, it is difficult for a school to get good results when the basics are not available. In general, therefore, a clear correlation between the average test results and different categories of schools in terms of levels of infrastructure and equipment was noticed, as illustrated in the case of Madhya Pradesh. However, it was also found that individual schools which have similar material teaching-learning conditions can have very different results. In

spite of deplorable conditions in many schools, learners do relatively well, while in other schools with good facilities, the learner performance is very low. Material inputs therefore do have an impact on results, but this impact is mediated through the interaction of these inputs with other factors and, in the first instance, the human ones.

2. Indeed, differences in results are more related to the *quality of the teacher* than to the availability of equipment. But what is meant by the quality of teacher? Here also the research throws some light on the subject. Competence which is the result of training and experience was found to be important to a certain extent. In some cases, teachers manifestly did not master the subjects which they were supposed to teach. This did affect their performance in two ways. First of all, their teaching in the given subjects was poor, but also they tended to devote less time to the subjects in which they were not at ease. However, a more important problem of competence was the lack of pedagogical skills which, because of poor pre-service as well as in-service training, was a more widespread and more serious handicap for efficient teaching.

That being said, the individual school case studies show that in the end teacher quality is more a question of motivation than of competence. It is the motivation which determines the extent to which competence will be actually used. Classes in which the results were better than expected were invariably run by teachers who, for one reason or another, were more motivated than elsewhere. In other words, competence is an important but not a sufficient condition for an efficient teaching-learning process to take place.

3. Classroom observation allowed further identification of some of the characteristics of a more efficient *teaching-learning process*. They essentially have to do with the amount of learning exposure and the efficient use of learning time, that is to say, the extent to which the teaching is well structured and pursues clearly defined objectives. More precisely, the following characteristics of teacher behaviour could be observed in the better performing classes:

- teacher is less absent;
- he/she uses work plans and lesson preparations;
- he/she has a more active teaching style (even if the overall approach remains teacher-centred);
- he/she gives regular homework and, more importantly, he/she provides regular feedback to the learners on the basis of an individual correction;

- he/she organizes regular assessment of knowledge and skills acquired by the learners and provides individual feedback on the results.

4. However, the teaching-learning process is not an independent variable. It is therefore important to know what are the factors which influence it and can make it more efficient. Again, very special cases could be identified which are related to the individual characteristics of the teachers and consequently cannot be easily generalized. But, on the whole, the research showed that the chances to obtain a more efficient teaching-learning process (along the lines described above) depend to a large extent on the availability of proper control and support structures at the school level, and on the level of interaction between the teacher and the parents.

The necessity of proper *control and support structures* is closely related to the interactions prevailing within schools and, more specifically, to the role of the headteacher. The difference in the role played by the headteacher was considered to be one of the main reasons for the variation in results between public and private schools in Madhya Pradesh and also in Puebla. It was found that in both cases headteachers of private schools were exerting a rather tight control over the teachers: ensuring their regular presence, that timetables were followed, work plans prepared, etc. In government schools, the situation is not the same. Some schools are very small and do not have a real headteacher. In others, headteachers are appointed but they lack the necessary authority and competence to ensure respect of minimum rules of good school functioning. In Madhya Pradesh, for example, while in private schools headteachers are themselves supported and controlled by School Management Committees, in government schools such a mechanism does not exist. On the other hand, the classical supervisory structures have deteriorated so much so that they cannot provide the headteachers with the necessary backing they need in the everyday management of their institutions. Restoring the system of school supervision and rethinking the roles and respective responsibilities, in this respect, of inspectors, headteachers and local communities from an integrated perspective is, therefore, a must for any improvement in the quality of basic education.

The other factor which emerges as an important correlative characteristic of an efficient teaching-learning process is the level of *interaction between the teachers and the parents*. It has been seen that in general, with the exception of Zhejiang, this interaction was far less intensive than expected. As a matter of fact, in many instances, and particularly in rural areas, a wide gap was noticed between these two main actors intervening in a child's education. Parents were looked upon by teachers as obstacles rather than as partners for quality improvement. However, in schools where this trend could be inverted and communication channels established, the teaching-learning processes tended to be more efficient. In Zhejiang, where the results of the pupils were found to be generally better than elsewhere, regular contacts between teachers and families (including regular home visits) were a standard feature of school functioning. Better communication between parents and teachers was also one of the main characteristics of private schools in Madhya Pradesh and Puebla. A privileged means of communication in these schools was found to be the systematic feedback to the parents of homework and test results. The important thing seems to be to get the parents involved or, at least, interested in the pedagogical aspects of their children's education, rather than to simply solicit their material and monetary contribution. In Puebla, for example, this difference in the parents/school relationship was found to be the most important one between urban and rural areas. Fortunately, there were some exceptions to prove that real pedagogical partnership between parents and teachers can also be established in rural schools.

IV. Implications for policy making, planning and management

In this last section, are examined some implications of this research for policy making and planning in the area of basic education. The intention is not to relay the full critical analysis of traditional planning practices, which has been done elsewhere[2]. It is more simply a question of highlighting some of the changes in the approach that seem necessary on the basis of the results obtained through the case studies and of presenting some consequences of these studies for the planner's agenda.

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[2] For a full discussion of these changes, see Caillods, F. (ed.), 1989.

A. Implications for the planning approach

At least three general conclusions seem to flow from this research; taken together, they suggest a re-orientation of the traditional way of envisaging the planning and managing of basic education.

(i) *A sense of diversity*

For a long time, the dominant approach to planning has been to apply uniform education development strategies, designed to make a standardized school service accessible to a population with a supposedly homogeneous education demand.

However, the case studies have demonstrated an extreme diversity of school situations within each country. The typical school does not exist, any more in fact than a homogeneous education demand. The planner cannot reasonably propose the same measures for a small school with one teacher, without its own building and with no equipment, located in a poor rural region (such a school often amounts to nothing more than occasional meetings of an adult and several village children), as for a large, well-equipped school with specialized teachers, located in a privileged urban zone. The implicit hypothesis underlying many plans and reforms is that all schools function in more or less the same way, which generally corresponds to the model one finds in privileged urban zones. This hypothesis is not realistic. It has damaging consequences for schools in marginal zones, because it imposes functioning requirements that are difficult for them to meet, and because it offers improvement measures that are inappropriate for their situation.

The recognition of school diversity and of the need to design intervention strategies that are varied and adapted to different local circumstances has a number of consequences for planning practice and policy making.

At the central level, this implies:

- preparing more detailed and in-depth diagnoses of realities in the field, with a view to revealing the variety of situations rather than national averages;
- modulating national objectives according to various situations identified through the diagnosis, and drawing up specific programmes of action, adapted to the needs of specific clientele groups;

- great flexibility in the implementation of these programmes, allowing for adaptation of central orientations to local conditions and for successive adjustments over time;
- an explicit will to bring the various agents of educational development into the processes of programme design and implementation;
- giving priority to the correction of imbalances within the national school system through compensatory measures in favour of the most disadvantaged schools.

A diversified approach also implies that a sufficient margin of manoeuvre be left to the local management level. It is only at this level that the local official can interact directly with the school and the community; it is at this level that he/she can, together with the school and the community, make a good evaluation of the need for basic education services; it is also at this level that he/she can best assess how the national orientations should be adapted to the local population's conditions and needs. All this implies clear redistribution of responsibilities among different levels of administration, including that of the school, according to hybrid modalities that will vary from country to country[3].

(ii) A sense of consistency

Several authors have stressed the inappropriateness of models that seek to explain differences in the levels of pupils' knowledge by this or that variable[4]. The case studies, and especially the contrasted analyses between high- and low-performance schools in the three countries, confirm these reservations. What makes the difference among schools is not one or several factors taken in isolation, but rather the particular interaction of all the material, human and organizational resources involved in the pedagogical process. Moreover, the key to good interaction of these resources is always the behaviour of the teacher, that is, the nature of his/her relations with his/her pupils, with his/her colleagues and with the community.

This is why any measure to improve quality that is limited to one or several aspects of the school system, without taking into consideration its inter-relations with the others, runs the risk of not having the desired effect. Unfortunately, this is what happens all too frequently. A new curriculum is introduced without the textbooks being available, or new textbooks are distributed without the corresponding guides for the teachers. But the greatest concern is that many of these measures are planned without those responsible for implementing them, namely the teachers, being consulted, or, even more seriously, without them being trained how to integrate the new component harmoniously into the pedagogical process at the classroom level.

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[3] Hallak, J. 1990.

[4] See *inter alia*: Fuller, B. 1986.

For action plans to be successful, it is essential that they be consistent. This supposes that due consideration is given to: (i) the close inter-dependence among variables, at both the programme design and implementation stages; (ii) putting the teacher at the centre of any effort to improve the quality of education.

(iii) *A sense of realism*

Over the last few decades developing countries have been exposed to successive waves of vast reforms, such as the introduction of productive work at school, massive injections of new technologies, changes in the language of teaching, etc. One can reasonably ask why, despite these many reforms, pedagogical practice has remained so desperately unchanged, or has in certain cases even deteriorated in comparison to what it was 20 or 30 years ago?

Different reasons can be mentioned, including the prevailing economic crisis and political instability, which did not facilitate the task of educational planners and policy-makers. Nevertheless, with hindsight, one cannot avoid thinking that many of these reforms were too ambitious, and did not sufficiently take into consideration the real conditions of functioning of education systems in the countries concerned.

Many efforts to introduce productive work, for example, did not yield the expected results because their promoters over-estimated the role that the school could play in development, because they barely paid attention to the real aspirations of parents, and because they ignored the many constraints that weighed on the teaching staff[5]. Similar observations could be made about other innovation projects.

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[5] Diarra, I. 1991.

As this research has shown, the failure of vast and deliberate reform programmes, imposed from the top (such as the introduction of national languages in Guinea), can lead to profound reticence on the part of parents and teachers about any form of innovation. The launching of plans and projects without verifying whether they correspond to the needs and living conditions of parents and teachers, and without trying to obtain their support, is a costly and ineffective strategy.

The planner should develop a more acute awareness of local realities by listening carefully to what is happening in the field. He/she must also have a sense of realism as to the time required for specific innovations, and *a fortiori* for more general policy changes, to be fully integrated at the level of a given school and at the level of the education system as a whole.

B. Consequences for the agenda of planners and managers

The importance has been stressed in basic education planning of paying greater attention to the diversity of local situations. Therefore, the intention is not to offer recipes for the best strategy or strategies to develop this type of education, but simply to point out a number of themes that should be at the heart of planners' concerns.

(i) Being more attentive to the demand side

The planning of education has not paid enough attention to demand issues. Most of the time it has assumed that demand is guaranteed, and that it is enough to make the school accessible for making children go. Similarly, the issue of whether the content of education is relevant and suited to community needs is debated at length among specialists, but rarely discussed with parents. The main reaction to parents who might not want to send their children to school has been to decree school attendance compulsory.

But compulsory education has little impact on poor parents who are not in a position to send their children to school regularly, because they need their help at home or in the fields, nor on children suffering from malnutrition or debilitating illnesses, or who have quite simply been discouraged by a negative experience at school. These problems of the interaction between supply and demand, which the case studies have illustrated, deserve more attention than they generally receive.

The first challenge for the planner is to adapt the school to the real living conditions of families, in order to make it culturally and economically more accessible and more attractive. To meet this challenge, he/she can learn from his/her colleagues in the non-formal education sector, who have always manifested great flexibility in the way they organize their programmes. For example, while recognizing that logistics may be more complicated than in the case of formal education, standardized school calendars and timetables could be adjusted, for they are often poorly suited to local conditions in certain zones. Similarly, one could relax rigid criteria of promotion and repetition that prevent normal progress of disadvantaged children. This is what was done, for instance, under the *Escuela Nueva* programme in Colombia, which instituted a form of pedagogical organization that allows pupils who have had to be absent to catch up and to move up to the next grade when they are ready[6].

In some countries there have been attempts to go beyond the simple adaptation of the supply, by exercising a direct impact on the demand factors that hinder regular school attendance. Among such measures taken in different countries one can randomly mention the following: literacy courses for parents and/or programmes to inform them or make them aware of the role they can play in making the schooling of their children more successful, organization of school meals, use of the school as a centre for medical screening and health care for their children etc. These types of measures have often been successfully applied to projects on a limited scale, but they have rarely been generalized. Part of the reason, of course, is again lack of resources. But this sort of initiative also requires a considerable amount of time and commitment from local officials, including teachers; while there is in many cases a manifest lack of motivation and organization, often accompanied, as has been seen, by indifference to the problems of families. These realities must be kept in mind when one asks the school to go beyond its traditional role and to exercise a direct influence on demand. What can be obtained from a particularly dynamic staff in certain schools is not necessarily transferable elsewhere. In fact, the success of this type of initiative is dependent first and foremost on the reinforcement of local management capacities, and on the ability to generate and maintain sufficient involvement by the teaching staff.

As a further point, the decision-maker should also be aware of the importance of parents' opinion, and of what they expect from schools for their children. The case studies show variation in educational and professional aspirations, ranging from the realistic expectations of parents in Puebla and in Zhejiang, where education is well developed, to the more ambitious expectations of parents in Guinea, where the development of schools is still quite limited. But in all cases, the school is seen primarily as an instrument of social promotion, and as a means for children to escape the harsh conditions of rural life. As a result, parents have a traditional and academic perception of education. For them, primary school serves essentially to teach their children to read and write and to prepare them for secondary school. Thus it is not surprising that they are often suspicious of reforms that move schools away from their traditional functions.

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[6] See Schiefelbein, E., 1992.

Of course, there can be no development without proposals for change. Some tension between the objectives of education policy and the expectations of parents is quite normal, provided it does not simply amount to contradiction. When they want to introduce changes, decision-makers should realize that dialogue with the users of educational services is indispensable, as is adaptation of these changes to local realities. The hasty introduction of national languages into Guinean schools under the previous regime once again provides a good example of bad practice. This reform, imposed from the top without acceptance by the grass-roots users, not only failed but even resulted in a strengthening of the conservative stance of parents (and teachers).

However, it should be remembered that this research does not provide any information about parents who do not send their children to school at all. It is likely that the above described measures to bring the school and pupils' parents closer together could also have an encouraging effect on these parents. But the two problems are not necessarily the same. There is a host of reasons for parents not to want to send their children to school: because the supply is not accessible enough, because the cost (including the opportunity cost) is too high, because they do not perceive schooling as being useful, or because they reject school for socio-cultural reasons. The first case is relatively easy to resolve, because it is solely a supply problem, but the others are more complex. Even though it is known that these other cases are not rare, and that in some regions many parents simply refuse to send their children to school, there are very few in-depth studies of the reasons for non-enrolment. At a time when there is a renewed international push to progress more rapidly towards the objective of basic education for all, this kind of study is becoming more indispensable than ever before.

(ii) Investing more in the human factor

Officials responsible for education projects often give the impression that they put more faith in things than in people to improve the quality of education. Massive investments are made in school buildings, in the production of textbooks, or in the distribution of teaching materials, without these investments being accompanied by appropriate teacher-training programmes. In India, for example, the famous 'Operation Blackboard' consisted in supplying each primary school with the equipment necessary to teach properly. Unfortunately, the impact on the teaching process was limited, precisely because the necessary complementary measures of training and pedagogical support for teachers were not taken into consideration[7].

Decision-makers should take the teacher more seriously, as the crucial factor in the quality improvement process. At the macro-level this means paying more attention to the imbalanced distribution of teachers by zone. The case studies revealed considerable disparities in terms of the proportions of men and women, of professional qualifications, of experience and of stability of the teaching staff. Although there are exceptions, the general rule is systematic degradation of these parameters as one moves from privileged urban zones to the most marginal rural zones. Moreover, these handicaps in terms of human resources only serve to accentuate those already mentioned in the area of material resources. Under these conditions, how could one expect schools in marginal zones to obtain results comparable to those of schools in privileged zones?

At the micro-level, the case studies show that at least three serious problems arise. Often teachers are simply not available to do their work properly. Many of them are forced to have a second occupation to survive. In addition, teachers in marginal rural zones tend more and more to live in local centres that are far from their school, but that offer them a minimal level of material comfort and services. Commuting time is then added to the time spent on a second occupation, to the further detriment of time available for teaching. Then there is a manifest deterioration in the commitment of teachers, which is directly connected with difficult living and working conditions and with declining salaries. Moreover, teachers in rural zones have a deep sense of being isolated or even abandoned, for two kinds of reasons. They feel that they are not supported by the central administration, and at the same time they are cut off from the communities where they work. Finally, one observes a lack of competence and often of confidence in being able to work better, partly because of insufficient initial and in-service training, but also because of a lack of adequate support in the form of various teaching guides and materials.

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[7] See Ahmed, M. et al., 1991.

Of course, there are no miraculous solutions to these problems, and one should not expect, for example, to be able to increase teachers' salaries overnight. But there is always some margin of manoeuvre, which varies from one country to another and which should be utilized fully. Low salaries are a real problem with a direct effect on teacher performance. Even though, as has been seen, this problem is not the only concern of teachers, and opportunities for improving their effectiveness by non-financial incentives are considerable, one should immediately improve at least the management of salary payment, so as to reduce administrative bottlenecks and to guarantee that payments are made regularly. More innovative and further-reaching measures could also be envisaged, in particular the revision of salary structures and of rules governing promotions and transfers.

More specifically, it really is necessary to come back to the issue of incentives that might encourage women and teachers with good qualifications and experience to work in schools in marginal urban and rural zones. Similarly, one should examine the relative advantages and disadvantages of recruiting local teachers who may be less qualified, but more deeply rooted in the community and more highly motivated. Recent experiences, such as that of the BRAC in Bangladesh, seem to indicate that this approach may yield good results, provided it is combined with a system of intensive professional training and support[8].

In terms of improving the effectiveness of the teaching-learning process in the classroom, the planner can intervene in different ways. The first priority is to offer teachers decent working conditions. The influence that material teaching conditions have on the morale of teachers has been seen. It is difficult to ask them to be regular and assiduous if the minimal resources required to teach properly are not provided. The definition of this minimum will, of course, vary from country to country, and even from zone to zone within the same country, but the role of planning is to identify disparities in teaching conditions and to provide compensatory resources to reduce these disparities and to ensure that the minimum is guaranteed everywhere.

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[8] Lovell, C.M. ; Fatema, K. 1989; and Ahmed, M. et. al., 1993.

The second priority is to pay greater attention to the quality of initial and in-service training. As has been seen, the recruitment of teachers with no initial training is a common practice in Madhya Pradesh. Investment in in-service training varies from one country to another, but is generally at too low a level to have a real effect on the quality of the pedagogical process. Moreover, the substance of such training is often academic and too far removed from the everyday problems that teachers confront in their classrooms. The absence of adequate training for those who teach in multigrade classes is a flagrant example of the weakness of present training systems.

The third priority is to listen more to the teachers. A recurring theme in interviews with teachers is that they say they learn best from their colleagues. They appreciate model lessons and they are hungry for all sorts of pedagogical guides and documentation. All this speaks in favour of participatory training programmes, centred on actual practice. Moreover, in the particularly impoverished teaching contexts that were noted in most rural zones, more systematic distribution of teaching guides would provide teachers with very practical support, and might well give them confidence and remedy some of their shortcomings.

Last, but not least, one should design the different support mechanisms for teachers as a coherent whole, explicitly directed at improving pedagogical practice in the classroom. Too often there is little or no connection between initial training, in-service training, supervision and pedagogical guides. This lack of coherence is confusing for teachers.

As experiences in different countries have shown, it is when the teachers feels that all the support efforts converge on the improvement of their pedagogical practice, and that they are, themselves, involved in their own training, that these efforts have the greatest chance of success[9].

(iii) Restoring supervision and support mechanisms

One negative effect of the rapid expansion of primary education in many countries has been the gradual deterioration of traditional supervision mechanisms.

It was possible to determine that, in at least three countries covered by this research (with the exception of Zhejiang), inspection services have been weakened by a shortage of resources, and at the same time overwhelmed by the volume of work to be done, to the point that they are no longer really able to exercise sufficient supervision of the quality of education. Visits to schools, when they take place at all, are too frequently devoted to solving administrative problems, without any visits to classrooms or discussions of pedagogical problems. It should be added that, as of a certain level of deterioration in the functioning of schools and in the employment conditions of teachers, the work of an inspector can no longer be seen in the same terms. Both incentives and sanctions do not have the same effect. How can one expect a teacher who has not been paid for months, and who does not have the basic pedagogical resources, to be assiduous and to do a quality job?

The same problems arise for headteachers. As has been seen, they are rather far from playing the new leadership role that is expected of them, except in certain large schools (mainly private) located in urban centres. One reason for this is that they have not been prepared to fill this role but, more important, is the fact that they lack the authority and support needed to make sure that the rules of proper functioning of a school are followed. Moreover, they are generally over-burdened by routine administrative tasks, which, especially in rural zones, are added to their full-time teaching responsibilities.

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[9] In addition to the examples of the BRAC in Bangladesh and the Escuela Nueva, one might also mention that of the900 schools programme: see *Flip, J. 1993*.

Thus it is necessary to revise the overall control and support system, and the respective roles of different levels of management. It is clear that inspection services, which are the indispensable intermediaries between schools and the central administration, must be enhanced. These services could have considerable influence on the pedagogical behaviour of teachers, provided their control and counselling activities through field visits are closely co-ordinated with in-service training programmes. However these visits will necessarily be limited in number, so one can hardly expect them to have a direct impact on a school's everyday functioning.

This last problem has rather to be catered for at the school level and, more specifically, through a strengthening of the role of headteachers. Everyone agrees that this role is of capital importance for improving the quality of education, without necessarily drawing the practical conclusions. Asking a headteacher to feel responsible for the quality of teaching in his/her school, and to play a leadership role vis-à-vis his/her colleagues and pupils' parents, is a new requirement that implies re-definition of the rules of the game. Not only is it necessary, in many cases, to remove practical obstacles that have hitherto forced the headteacher into a purely administrative role, but one must also revise the statutes that govern the management of schools, the functions of the headteacher, his/her responsibilities, his/her degree of autonomy, his/her relations with the community, and the interactions among different levels of management and control. In this respect one must not forget the special problems of small rural schools with one or two teachers, for which it is necessary to develop a specific management system, for example by clustering several schools around one central institution, as is already being done in several countries[10]. It will also be necessary to take headteacher training more seriously, and to adapt it to the needs of these new functions they are required to fulfil.

Finally, some thought must be given to the criteria used to select them. As has been seen, the promotion of a teacher to the position of headteacher is based most of the time on purely administrative (if not political) criteria. To what extent can one bring these criteria in line with the qualities required to fill this new role of leading a school community? An interesting experiment in this respect is presently underway in the State of Minas Gerais in Brazil. As part of an overall revision of regulations governing the management of schools, headteachers are elected by secret ballot by teachers and by pupils' parents, after an evaluation of their management and leadership skills[11].

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[10] See the case of school clusters in Thailand, presented by Tsang, M.C.; Wheeler, C., 1991.

In addition to the implications mentioned above, what is no doubt most difficult is to create (or to restore) a culture of accountability. Both headteachers and teachers must be persuaded that they are accountable to families for the proper functioning of the school, just as the latter must develop a sense of ownership of *their* school. This leads to a brief discussion of another point on the planner's agenda, which is bringing the school and the community closer together.

(iv) Bringing the school closer to the community

Except for the Zhejiang study, a number of related conclusions can be drawn from the national case studies. Just as the administrative hierarchy tends to blame teachers for their lack of commitment, so the teachers themselves are blaming parents for the lack of interest, absenteeism and the high drop-out rate of their children. At the same time, they make little effort to meet parents, whether by organizing meetings or by asking them to come to the school individually. This reflects weak teacher motivation, but also their conviction that parents do not have much to contribute to the school.

As for parents in rural zones, they have little contact with teachers, partly because they are hardly invited to do so, partly because the school is an alien world for them if they have not been to school themselves, and partly because they themselves do not really see what useful purpose such contact could serve. Their attitude is one of passive but benevolent ignorance. They generally have a good opinion of the school and find that teachers do a good job. They entrust their children to teachers without really expecting much accountability.

As a result, there is an abyss between the school and the parents, and the synergy that could be generated by good interaction between these two parties is not present at all. On the contrary, there is very much a vicious circle. Teachers do not solicit the co-operation of parents. Consequently, the latter feel less and less concerned by what happens at school, their own motivation and that of their children is weakened, and this leads to failure and dropping out. The teachers, in turn, are convinced that they are not supported by families.

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[11] Namo de Mello, G.; Neubauer da Silva, R., 1993.

For the school to yield better results, it is necessary to break out of this vicious circle whereby parental discouragement is met with teacher defeatism. The question is how? Obviously, to solve the problem it is not enough to create a parents' association or a school development committee. Such organizations usually exist on paper but function poorly or not at all. In and of themselves, they do not guarantee a more positive attitude of teachers to parents, nor a sense of ownership on the part of parents vis-à-vis the school. As several studies have shown, the attitude of the staff, and especially the teaching staff, is of capital importance when one wants to achieve more open and more participatory functioning of schools. In fact, it is often more difficult to convince teachers to take this road than it is to convince parents[12].

Moreover, it must be accepted that it takes time to change habits and traditions, and consequently one must reason in terms of stages. In the immediate term, the most urgent task is probably simply to make the school more welcoming for its users. To achieve this, teachers should be made aware that they need families to do a good job, that they have to invite parents to become familiar with the school's life, in order to stimulate their interest and to obtain their support for the schooling of their children. Once the cultural gap separating parents and teachers has been bridged, more elaborate forms of participation become possible, and in particular more active involvement of parents in the school's management and control.

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12. See Shaeffer, S., 1992.

Appendix

Appendix

Variations in achievement scores between learners – Results of regression analyses

I. The case of Guinea

As one might expect, the variation of results by pupil is very high. Taking the results at the end of Grade VI (*Table 1*) the deviation in French, arithmetic and overall test marks is as follows:

Table 1. Guinea: Distribution of French, arithmetic and overall marks in Grade VI

Mark out of 100	French	Arithmetic	Overall
Minimum	4.3	3.3	4.8
Maximum	95.0	96.7	93.5
Mean	63.1	55.1	60.0
Standard deviation	21.2	17.2	18.1
Standard error	0.742	0.590	0.637
Coefficient of variation	0.336	0.312	0.304

Figure 1 gives the frequency distribution of overall marks for the two tests taken together. This distribution does not exactly follow a normal curve, but comes close with a slight asymmetry towards the higher marks[1].

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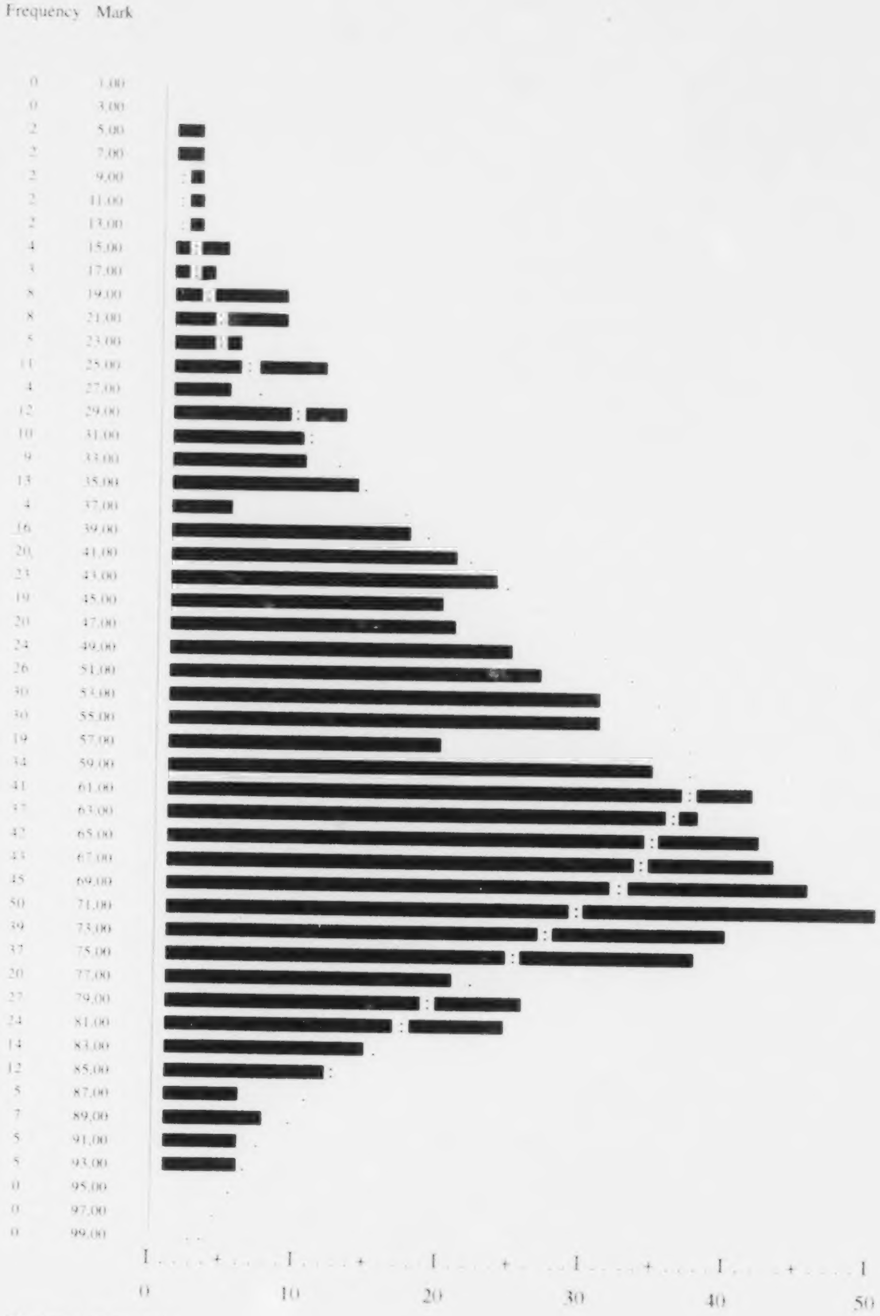
[1] This asymmetry is mainly due to the marks in French:

	Kurtosis	Skewness
French	-0.258	-0.788
Arithmetic	-0.117	-0.214
Overall	-0.002	-0.735

Figure 1. Guinea: Distribution of overall marks (Grade VI)



Number of cases: 815

Overall -0.002 0.735

The factors that can influence differences in pupils' marks are numerous. They may be related to the characteristics of:

- the pupil (gender, age, number of years repeated);
- his/her family environment (education and socio-professional category of the parents, familiarity with spoken and written French, family standard of living, diet, availability of books in the home);
- his/her present school (quality of infrastructure, professional qualifications and experience of teacher, availability and use of teaching equipment and materials);
- the zone in which the pupil's school is located.

This study first tried to determine to what extent the characteristics of the pupil and his/her family environment have an influence on the marks in French, treating the marks of Grade VI pupils in French as a dependent variable.

The results of this multiple regression can be presented schematically, as shown in *Table 2*.

First of all, it is interesting to note that 15 per cent of the variance[2] in French marks is related either to the pupil's individual characteristics, or to those of his family environment. This is not negligible, and it can be said that, independently of the school of attendance, some pupils have an advantage because of their own characteristics.

So what are these factors that cause certain pupils to succeed better than others? In *Table 2*, only those factors whose relation with marks is statistically significant were included, and one may be surprised that certain factors do not appear.

Indeed, while certain factors are familiar and are generally to be found in analyses of this kind, there are others that are more specific to Guinea.

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[2] On the basis of the value of the coefficient R^2.

Table 2. Relative influence of different variables in the regression on the marks in French

Variables	B	β	R^2	T Significance
Characteristics of the pupil				
Boy	11.82	0.226	0.029	<0.0001
Opportunity to read French	20.59	0.203	0.084	<0.0001
Two or more repetitions	-8.74	-0.105	0.088	0.0006
Family environment				
Father writes in French	5.85	0.131	0.135	0.0001
Mother writes in French	4.80	0.082	0.146	0.0176
Teacher				
Recruited as a full teacher	5.05	0.117	0.177	0.0065
40 years old or younger	-10.48	-0.209	0.193	<0.0001
Integrated in the community	4.12	0.087	0.204	0.0146
Would choose a teaching career again	-8.61	-0.202	0.223	<0.0001
Trained at ENI (Teacher's College)	6.43	0.150	0.237	0.0019
Zone				
Marginal rural	-14.98	-0.271	0.308	0.0127
Forested rural	5.38	0.089	0.313	<0.0001

(i) Characteristics of the pupil

The sex of the pupil plays an important role. Remembering that the French mark varies from 0 to 100, on the basis of the coefficient B, one can see the relative advantage of boys over girls. In Guinea, as opposed to other countries such as France, girls have lower results than boys in primary education. This may be the result of the socio-cultural status of women in general, and of differences in parental pressure to succeed. Parents generally attach less importance to the education of girls, who are more easily mobilized to do chores at home and are more likely to be absent from school for the same reason.

A second important factor associated with success in French is the opportunity to read the language. Since Guinea has chosen French as its language of education, familiarity with it obviously constitutes a significant advantage, accruing especially to urban zones. In any event, this is an important fact that should not be forgotten when designing measures aimed at improving basic education.

A third pupil-dependent factor is the number of times the pupil has repeated in the course of his school career. As indicated previously, in Guinea, a single repetition is not a sign of school failure, because teaching in a language foreign to the child constitutes an additional difficulty, and a repetition may be necessary to consolidate basic knowledge and to reinforce familiarity with French. For this reason, a pupil who repeats once is not necessarily going to perform less well than one who has never repeated. On the other hand, multiple repetitions can affect the final mark. In the regression, those who have repeated twice or more were treated as a separate category, and one does in fact note a negative impact of these multiple repetitions.

(ii) Family environment

Collecting reliable information about family environment is not always easy when one has to do it through primary pupils. As is usual practice in the questionnaires submitted to the pupils questions were asked about the level of education of father and mother, about their profession, (which gave an indirect indication of education and income) about the characteristics of the home and its relative comfort, but simpler questions were also asked which aimed at determining whether the father and mother wrote or spoke French. It turns out from the regression that having parents who write French is the variable most significantly related to pupil results. This should not come as a surprise, because primary education is the issue, and parents who are able to write in French can assist their children. One naturally observes a strong correlation between being able to read French and level of education.

The effect of familiarity with French on success at school can easily be seen by cross-tabulating the average mark with various aspects of this familiarity with French (see *Table 3*).

For all these aspects of familiarity with French, the standard deviation of the marks is relatively high and statistically significant.

Table 3. Guinea: Influence of familiarity with French on the mark in the French test

Familiarity with French	Average mark in French (out of 100)	Standard deviation	N
Reading in French by the pupil:			
• never	36.6	21.9	32
• sometimes	61.5	22.1	422
• often	67.3	17.8	360
Father:			
• writes in French	68.3	19.4	285
• speaks French	62.3	19.3	144
• does not know French	59.5	22.3	386
Mother:			
• writes in French	71.0	20.2	126
• speaks French	67.3	16.7	46
• does not know French	61.2	21.3	643
Total sample	63.1	21.2	815

(iii) Factors associated with the teacher

After having controlled variables related to the pupil and his/her family environment, variables pertaining to the teacher were introduced.

The first factor that emerges is qualification at the time of recruitment. In Guinea there are three main categories of teaching staff: teachers, assistant teachers and monitors. The distinction among them is based on both general and pedagogical training. With time, however, either following training courses or by seniority, teachers can be promoted from one category to another, and as a result there are virtually no monitors at present. According to the survey of Guinean teachers, the structure by qualification at the time of recruitment is quite different from the present structure (see *Table 4*).

Thus the percentage of full teachers, while only 45 per cent at recruitment, has climbed over the years to 72.5 per cent. What should be pointed out, and this is no doubt to be expected, is that the variable most strongly correlated with school results is qualification at recruitment and not present qualification. Promotion by seniority or following a short training course does not improve the performance of teachers.

Table 4. Structure by qualification of the teaching staff at recruitment and at present

Teaching staff categories	Structure by qualification at recruitment	Structure by qualification at present
Monitor	8.0	0.5
Assistant teacher	47.0	27.0
Teacher	45.0	72.5

On the other hand, those who were already full teachers when recruited generate better results than the others.

To what extent does age, which is in any event strongly correlated with seniority or experience, influence the performance of teachers? Taking the group of young teachers (40 years old or less), one observes that, 'all other things being equal', they tend to obtain results that are not as good.

However, teachers who say they are well integrated in the community also seem to obtain better results, but the link is not very significant (t significance = 0.0146). Somewhat paradoxically, those who would opt for a teaching career if they were to choose all over again have worse results. This means that teachers frustrated by their present fate can nevertheless post better performances. Finally, teachers from the ENI (Teacher's College) seem to be better than those trained by the ENP (Primary Teacher's College).

(iv) The influence of zones

Zones were introduced into the regression in last place, to see whether there is any residual influence specific to zones. Of course, this is a rather ambiguous variable that encompasses a whole range of factors related to both the demand and supply of education. Of the six zones, two emerge as significant. The first, with a rather large and negative 'B' coefficient, is the marginal rural zone of Labé, which is very much cut off from the rest of the country, and has, as already noted, particularly poor school results. The second, the forested zone of Nzérékoré, is in the opposite situation, with a positive 'B' coefficient. As mentioned earlier, Christian missions moved into this zone very early on and its formal education tradition is an old one.

With all variables included in the regression, the 'R' squared coefficient reaches 0.313, which means that these variables have 'explained' 31.3 per cent of the variance in French marks (14.6 per cent for the characteristics of the pupil and his family environment, 9.1 per cent for the variables connected with the teacher, and 7.6 per cent for the zone).

The same regression model was applied to the total test mark (French and arithmetic). The results do not change very much as can be seen from *Table 5*.

Table 5. Guinea: Relative influence of different variables in the regression on the total mark

Variables	B	β	R^2	T Significance
Characteristics of the pupil				
Gender	8.34	0.194	0.019	<0.0001
Opportunity to read French	17.33	0.208	0.073	<0.0001
Two or more repetitions	-5.79	-0.085	0.076	0.0070
Family environment				
Father writes in French	4.87	0.133	0.119	0.0002
Mother writes in French	3.29	0.068	0.128	0.0538
Teacher				
Recruited as a teacher	5.36	0.150	0.162	0.0007
40 years old or younger	-9.30	-0.224	0.182	<0.0001
Integrated in the community	3.80	0.097	0.190	0.0046
Would choose a teaching career again	-4.71	-0.134	0.198	<0.0001
Trained at ENI (Teacher's College)	4.17	0.118	0.209	0.0163
Zone				
Marginal rural	-12.27	-0.269	0.270	<0.0001

It may be noted, however, that the value of R^2 has declined from 0.313 to 0.270, so the percentage of 'explained' variance is less. This was foreseeable in that some of the selected variables are much more directly related to learning French than to learning arithmetic. Generally speaking, family environment has more influence on language learning than on learning specialized subjects. The variable 'Mother writes in French' becomes statistically insignificant. Similarly, the forested zone is no longer included in the regression. In other words, this zone does not have a relative 'advantage' as in the case of French, for historical and cultural reasons.

II. The case of the State of Madhya Pradesh, India

A slightly different approach was adopted for the State of Madhya Pradesh. Separate regressions were carried out on an exploratory basis, for each of the zones, with the exception of the indigenous population zone, because the number of pupils there was not sufficiently large.

These regressions were done with the complete sample of pupils having taken the test, that is, those in both Grades IV and V. As indicated, the various test items correspond to minimal skills required at the end of Grades II, III, and IV. Hence the test level is within reach of Grade IV pupils and *a fortiori* of Grade V pupils.

The variables introduced into the regression can be grouped into three main categories, which are outlined below.

The first pertains to the pupils themselves, namely their grade of enrolment, sex and whether they have repeated.

The second pertains to the family environment, and mainly to:

- the mother's education (she never went to school, she attended primary or secondary, she studied in post-secondary);
- the father's education (with the same three sub-divisions);
- the father's employment (rather than that of the mother because of the high proportion of housewives).

The third pertains to the teachers:

- Level of education (matriculation, graduate, post-graduate).
- Intention to choose a teaching career, if they could choose over again.
- Teaching style (preparation of a monthly plan, regular exercises at home).

- Nature of class duties (teach a multigrade class, teach all the subjects, simultaneously fulfil the role of headteacher).

The status of the school in urban zones was also introduced in order to measure the variance between government and private schools.

Table 6 gives the values of the main parameters of the regression equations obtained for the Hindi mark.

Given that the sample included both Grades IV and V pupils, the first variable introduced in the regression is the grade. One does in fact note that there is a statistically significant difference between the pupils in these two grades (except for the urban zone of Indore, the B coefficient is of the order of 10 for a mark that varies from 0 to 100).

The smaller difference observed in Indore is due to the fact that its marks are relatively high, even for Grade IV pupils. This is not surprising as the test actually corresponds to that grade's level. Since the marks of Grade IV pupils are already high, even though those of Grade V pupils are better, the difference between the two grades is not enormous.

(i) Personal characteristics of the pupil

Contrary to what was observed in Guinea, boys do not succeed consistently better than girls, except in the rural zones. It is possible that parents in rural zones attach less importance to the academic success of girls.

Whatever the zone, results are not as good for pupils who have repeated once or more. The difference is negative and in the order of six to eight points.

Table 6. Madhya Pradesh: Parameters of the regression on the marks for Hindi in four zones

Variables	Urban		Semi-urban		Developed rural		Marginal rural	
	Indore		*Gwalior*		*Rajnandgaon*		*Rewa*	
	B	R^2	B	R^2	B	R^2	B	R^2
Pupil								
Grade V	5.4	0,031	12.2	0,111	10.7	0,026	9.4	0,057
Boy			*		8.2	0,091	5.8	0,061
Repetition	-8.4	0,100	-7.0	0,196	-6.4	0,115	-6.9	0,089
Family environment								
Mother without education	-4.3	0,289	-5.3	0,271	*		*	
Mother primary or secondary	*	0,326	*		4.5	0,128	9.1	0,128
Mother college or university	5.5		*		*		*	
Father college or university	*		4.3	0,296	*		13.4	0,140
Father farmer or tradesman	*		-6.5	0,325	*		*	
Father wage-earner	*		-3.3	0,339	*		*	
Teacher								
Matriculation	*		*		6.8	0,167		
Graduate	3.9	0,326	*		*			
Post-graduate	*		4.3	0,345	*			
Will not choose the same teaching profession	12.7	0,436	*		* *			
Monthly plan	*		4.1		*			
Regular homework	*		*	0,348	*			0,206
Teaching every subject	-3.5	0,445	*		*	0,205		
Multigrade class	*		*		5.4	0,221		
Headteacher teaches	*				-11.4			0,225
Government school	-31.0	0,647	-12.5	0,401	*		*	
Constant A	62.2	64.7%	57.1	40.1%	33.0	22.1%	33.6	22.5%

* Not significant at the threshold of 0.05 or non-existing modalities.

(ii) Family environment

The characteristics of the family environment naturally vary from zone to zone. Therefore it is not surprising that the variables influencing marks are not the same in urban and rural zones. In urban zones, the fact that the mother did not go to school has a negative effect and, conversely, the fact that she studied at the post-secondary level has a positive impact. In the rural zones, where the general level of education is lower, it is enough for the mother to have attended primary or secondary for there to be a positive effect.

Once the mother's level of education has been accounted for, the father's education has a positive impact only if he went to a post-secondary institution.

Finally, with the mother's and father's education taken into consideration, the father's employment has little influence. It is only in the semi-urban zone that one notes a negative effect in the case of fathers who are farmers or tradesmen and, to a lesser extent, when they work in the tertiary sector.

(iii) Characteristics of the teacher

Since the teaching staff is also different from zone to zone, the effect of the different variables is not the same. The teacher's level of general education no doubt has an influence, but in the urban zones it is detectable only if the teacher has completed post-secondary studies (graduate or even post-graduate). In the rural zones it starts to have an effect as of matriculation, with respect to teachers who have not matriculated.

In so far as teacher motivation and teaching style are concerned, questionnaires or interviews are not always an appropriate instrument. As in Guinea, the fact that a teacher states, in the urban zone of Indore, that he/she would not choose the same career again, does not mean that his/her performance is not as good, in fact the opposite is true. This result may be due to private education, where teachers are rather badly paid, but better controlled, and generate distinctly better results than public education teachers.

Preparing a monthly plan constitutes a positive factor in the marginal rural zone. It is true that only 26.7 per cent of teachers in this zone actually prepare a monthly teaching plan. In the urban zones, and even in the developed rural zone, this percentage is much higher:

Urban zone	83.3 per cent
Semi-urban zone	96.8 per cent
Developed rural zone	72.7 per cent
Marginal rural zone	27.3 per cent

A teacher who has to deal with all subjects has slightly worse results, but only in the urban zone of Indore, or precisely where there are specialized teachers for Hindi and arithmetic, notably in private education.

Finally, a teacher who has to double up as headteacher constitutes an unfavourable factor in the developed rural zone, but a favourable one in the marginal rural zone. This result should be interpreted with some caution, because the number of such teachers included in the analysis is small.

In the urban zones, of all the factors that can influence the level of marks, the status of the school is far and away the most important. This is particularly true of the urban zone, but it remains pertinent to the semi-urban zone. The proportion of the variance linked to the status of the school is enormous. This only serves to confirm what was seen previously when analysing the variation by school. This also explains why the proportion of the variance linked to different factors is considerably higher in urban than in rural zones (64.7 per cent in the urban zone against approximately 22 per cent in the developed and marginal rural zones).

The same regression model was applied to the marks for arithmetic, with very similar results, as shown in *Table 7*. The only point to be stressed is that family environment has slightly less influence on arithmetic marks. The percentage of the 'explained' variance is also slightly smaller for all factors taken together.

Table 7. Madhya Pradesh: Parameters of the regression on the marks for arithmetic in four zones

Variables	Urban *Indore*		Semi-urban *Gwalior*		Developed rural *Rajnandgaon*		Marginal rural *Rewa*	
	B	R^2	B	R^2	B	R^2	B	R^2
Pupil								
Grade 5	2.6	0,016	11.7	0,084		0,132	6.7	0,019
Boy	*		*	0,169	17.1	0,184	*	
Repetition	-7.6	0,076	-8.7		8.9 -8.7	0,226	-6.2	0,029
Family environment								
Mother without education	-4.8	0,264	-7.8	0,244	*		*	
Mother primary or secondary	*		*		*		8.4	0,054
Mother college or university								
Father college or university	7.6 *	0,308	* *		* *		* 15.5	0,096
Father farmer or tradesman	*		-7.1	0,276 0,289	*		*	
Father wage-earner	*		-4.0		*		*	
Teacher								
Matriculation	*		*		4.8	0,233	*	
Graduate	6.2	0,309	*		*		*	
Post-graduate	*		8.5	0,304	*		*	
Will not choose the same profession	11.2	0,395	*		*		*	
Monthly plan	*		*		*		18.8	0,212
Regular homework	*		*		*		*	
Teaching every subject	-5.3	0,408	*		*		* *	
Multigrade class	*		*		*		*	
Headteacher	*		*		8.7	0,248		
Government school	-30.0	0,583	-14.8	0,372	*		*	
Constant A	54.2	58.3%	59.8	37.2%	21.9	24.8%	31.7	21.2%

* Not significant at the threshold of 0.05 or non-existing modalities.

III. The case of Puebla, Mexico

The approach adopted for Puebla is similar to Madhya Pradesh. A separate regression was done for each region, with the sample of Grade VI pupils. As a dependent variable, the result of the test for competency in communication for the Grade VI was chosen. The variables (see *Table 8*) included were selected after analysing the correlation between several indicators and learning results for the whole sample.

Table 8. Puebla: Results of the multiple regression analysis, by region

Variable	Urban *Puebla*	Marginal urban *Libertad Tecola*	Developed rural *Zacatlán*	Marginal rural *Ixtaca-maxtitlán*	Indigenous population *Cuetzalan*
Housing conditions	0.0135	0.0971	-0.0537	-0.0142	0.0609
Father's schooling	0.0693	0.0344	_0.1395+_	-0.1072	-0.0681
Mother's literacy	_0.1527+_	0.1301	0.0629	-0.1273	0.0206
Pupil's age	_-0.1765*_	_-0.1508+_	-0.1083	-0.0983	-0.0076
Child works	-0.0548	-0.0749	0.0035	0.0492	0.1064
Bath frequently	0.0336	-0.0792	0.0079	0.0887	0.2152
Female teacher	0.3073*	-0.5148	0.0827	-0.9205*	-0.0883
Teacher's schooling	-0.0482	-0.1218	0.1075	-0.8107*	1.418*
Teacher's occupational stability	0.0803	0.1019	0.3218*	2.4598*	0.6296
No desire to change profession	-0.0462	0.9170*	0.3375+	0.2548	-0.4464+
Teacher's expectation of pupils	0.0148	0.0642	0.2953*	----	-2.36*
Teacher's absences	0.1505	-0.3532	0.1324	-0.4725	-0.536*
Books in classroom	-0.0100	-0.1578	-0.0343	-1.9157	-0.803*
Headmaster does not teach	----	-0.1503	0.4285*	0.9288*	-1.34*
Community opinion of headmaster	0.2449*	----	0.1124	----	-0.752+
r squared	0.2261	0.4348	0.3471	0.5524	0.3549
F	5.5284	7.8159	7.3105	4.7026	3.0171
Sig.	0.00001	0.00001	0.00001	0.0004	0.0027

+ Significant betas with p greater than .05.
* Significant betas with p greater than .01.

The variables selected for this analysis represent three main factors: the family environment, the pupil and the school. Characteristics of the family environment include: housing conditions, father's schooling and mother's literacy. Children's characteristics pertain to their age, whether they work and indicators of health (i.e. bath frequency). School variables concentrate mainly on the teaching force. Six variables relate to the teacher: gender, schooling, occupational stability, desire to change profession, his or her expectations of pupils, and absenteeism. One variable reflects inputs in the teaching process: the number of books in the classroom. The final two variables concern the headteacher: firstly, does he or she teach, and, second, what is the community's opinion of the headteacher?

(i) Family environment

The indicator 'housing conditions', taken as a proxy for the family's socio-economic status, carries little weight. This is not fully surprising, as the analysis was done within zones, where the housing conditions probably differ little from one family to another. Parents' education has a significant positive impact on attainment in both the average urban (for the mother) and the developed rural zone (for the father). In the average urban zone, more than elsewhere, the mother is indeed the person who is most involved in helping children with their homework. This puts children with an illiterate mother at a clear disadvantage and could explain the result obtained.

(ii) Personal characteristics of the pupil

Of the set of three variables relating to the child's characteristics, only one is significant: age. The older pupils are, the lower their marks. Age, however, is not significant in the three rural zones, where pupils are on average older and where repetition is more prevalent. Repetition in these zones can be a strategy to make up for the poor quality of education, rather than an expression of substandard learning. Neither whether the child works, nor health factors (frequency of baths), seem to have a significant impact on pupil attainment.

(iii) School characteristics

The characteristics of the school, and in particular the teacher, have the most consistent significant influence on test attainment. The teacher's sex plays a significant role in three zones, but in opposite ways. Female teachers obtain better results than males in the urban zone, with the opposite situation occurring in the marginal urban and marginal rural sites. Teacher's schooling has a significant effect in two sites, but again in opposite ways: in the indigenous zone, the best educated teachers obtain the best results; in the marginal rural site, teachers with more schooling obtain poorer results. This last somewhat paradoxical result can find its explanation in the fact that better educated teachers might feel out of place and frustrated in an environment where few people are educated, and where the necessary inputs for quality teaching are scarce.

Teachers' occupational stability is a significant and positive contributor to attainment, in the developed and marginal rural sites. What is also notable is a teacher's desire to change profession. It has the expected effect in two zones, the marginal urban and developed rural: those who wish to remain perform better. In the indigenous site, the opposite holds true. The same result was noted in Guinea and the urban site in Madhya Pradesh. It is not an easy phenomenon to explain. It might well be that ambition in the indigenous zone is a characteristic of the more educated and thus more competent teachers, while an acceptance of the present career could be an expression of indifference. But that obviously does not explain the opposite results obtained in the other two sites.

There is a marked difference between teachers' expectations for their pupils' future educational career in two sites: the developed rural, where the effect is positive, and the indigenous site, where there is a negative relationship. No immediate explanation of this puzzling result can be offered. Less surprising is the relationship between teacher absenteeism and poor pupil attainment, found to be significant in the indigenous site. That this variable had no significant effect in the other sites, is probably caused by teachers' uniform behaviour in this respect.

The three remaining variables relate to inputs in school and to the headteacher. The number of books in the classroom, other than schoolbooks, has a significant effect only in the indigenous site, but a negative one. The relatively small number of schools concerned might explain this quirky result, or does it prove that the number of books is unimportant as long as it is not known to what use they are put by the teacher? The influence of headmaster-related characteristics again poses some problems of interpretation. The fact that a headmaster does not teach, but has a full-time administrative and managerial responsibility, has a significant positive influence in the developed rural and marginal zones, but a significant negative effect in the indigenous zone. Apparently, therefore, the smaller schools in the indigenous zone, which cannot have full-time heads, function better than the larger ones. Finally, there is a significant relationship between the way the community expert informants evaluate the headteacher and attainment, in both the average urban and indigenous sites, but the relationship is again not the same. The community has a good opinion of the heads of successful schools in the urban site, but the opposite holds for the indigenous site. It seems that community members in the indigenous site have a poor knowledge of their school.

The percentage of variance in attainment, explained by these different factors, is the highest in the marginal rural area (55.2 per cent), followed by the marginal urban area (43.5 per cent) and goes down to 22.6 per cent in the average urban site. The marginal urban and rural sites were those with the highest variation in school results.

IV. Some general conclusions

The main conclusion that can be drawn from these analyses is that, manifestly, the same factor does not have the same influence everywhere.

The gender of the pupil plays an important role in Guinea. Girls have consistently worse results than boys. This disadvantage of girls is also observed in Madhya Pradesh, but only in the rural zones. It does not arise in Puebla. The reasons why, in certain situations, parents attach less importance to the education of girls, are well known: they are more easily mobilized to do chores at home, education is thought to be of less importance to their future, parents fear that the school-going experience might have a negative effect on their daughter's behaviour. Whatever the reason, parental aspirations and pressure to succeed at school vary greatly with the gender of the child in some countries and regions.

In both Guinea and Madhya Pradesh, multiple repetitions seem to have a negative impact on marks, with one difference: in Madhya Pradesh this factor comes into play as of the first repetition, whereas in Guinea this is true only after two repetitions. This can be explained in at least two ways. The first is that teaching in Guinea is in French, a language very rarely used in the family. Hence a new difficulty is introduced when the child goes to school, and an additional year may sometimes be necessary to consolidate knowledge acquisition and permit further normal schooling. The second is that promotion in Madhya Pradesh is automatic for the first three years of primary education. It is only from Grade IV on that the pupil can repeat. In Puebla, repetition was not taken into consideration in the analysis, but age was. The older a child, the weaker the performance. This relationship is only significant in the urban zones, not in the rural ones. The reason applying to Guinea, might play a role here also: in rural areas repetition can be a way of making up for the poor quality of education, rather than an expression of insufficient learning.

In Puebla, two other personal characteristics of the pupils (whether they work, and their bath frequency, a proxy for health) were found to have no significant impact on attainment.

As concerns the family environment, on the whole it seems that the parents' educational background is of more impact than their socio-economic condition. In Guinea, because of the particular language problem, parents' education is translated in their mastery of French. The fact that father and/or mother can write in French indeed enhances the pupil's result, as does his opportunity to read regularly in French. Socio-economic indicators *per se* were found to have no impact. The same is true for Puebla. In Madhya Pradesh, after controlling for parental education, the father's employment has little impact. The effect is negative for farmers and tradesmen, and slightly less so for those who work in the tertiary sector.

In both Madhya Pradesh and Puebla, since the regression analysis was done separately for each zone, the effect of parents' education has more nuances. In Madhya Pradesh, the mother's level of education plays an important role. In the rural zones, this effect is detectable if the mother has attended primary or secondary school. In the urban zone of Indore, it does not really come into play unless the mother has studied at the post-secondary level. After controlling for the mother's level of education, the father's education has little influence unless he himself followed higher studies. In Puebla, the education of the parents has an effect on attainment in only two zones: the father's in the developed rural zone and the mother's in the urban zone.

Among the intrinsic school-related factors, teacher characteristics have the most bearing on attainment. But again, what counts in one country or one zone, does not necessarily do so in another.

Only in Puebla does teacher gender seem to play a role. Female teachers perform better in the average urban area, but worse in the marginal urban and rural zones. Qualification seems to play a role in all three countries. In Guinea, for instance, those teachers who were recruited as full teachers post better results than those recruited as assistant teachers or monitors, even if the latter were subsequently promoted to the rank of full teacher, whether by seniority or following a training period. In general, pupils of the more qualified teachers score higher. The one exception to this rule can be found in the indigenous rural zone in Puebla. It can well be that the more educated teacher feels more dissatisfied in such a remote, underdeveloped zone.

Somewhat paradoxically, in Guinea, Madhya Pradesh and the indigenous site in Puebla, teachers who say they would not opt for the same profession if they had the choice, do not succeed less well than the others, in fact the opposite tends to hold true. Frustration is therefore not necessarily a sign of failure, and there are conformist and mediocre teachers who are resigned to their fate.

Some other teacher-related variables which have a positive impact, including experience, occupational stability, integration in the community, and preparation of a monthly work plan, were not identified in all three case studies.

One characteristic of the headteacher comes into play in Madhya Pradesh and Puebla: does he/she have to take on a teaching load or not? The impact of this variable however differs between the more developed rural zones, where a school performs better when the headteacher does not teach, and the marginal or minority zones, where the opposite holds true. This result has to be interpreted with care, as the number of schools concerned is small.

Finally, the considerable gap between private and government schools in the State of Madhya Pradesh, India, should again be mentioned. This is, among all variables, by far the most important.

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Inquiries about the Institute should be addressed to:
The Office of the Director, International Institute for Educational Planning,
7-9 rue Eugène-Delacroix, 75116 Paris, France.

The book

Problems of quality have become a major concern of education decision-makers everywhere. They have led to the design and implementation at the system level of extensive programmes aimed at the improvement of infrastructure, equipment and textbooks, teaching staff, etc. At the same time, it is being realized that critical decisions about quality are taken daily at the school level by the headteacher and the teachers, and that it is only at this level that most of the basic problems with regard to quality (teacher and learner absenteeism, deficient use of human and material resources, poor teaching practices, difficult relations with parents, etc.) can be monitored effectively. This is why the school is, or is becoming, the prime target of efforts to improve the quality of education.

But how much do we know about the ways in which schools operate? What are the critical factors that determine the quality of the interactive processes taking place in schools? How do these factors relate to the performance of learners? What should consequently be done at school level to improve this performance? And what are the implications for planning? These are the questions which this publication tries to address on the basis of a comparative analysis of the functioning of schools in different countries (China, Guinea, India and Mexico) and in different development contexts within each country. In order to do so, an original research approach has been adopted which combines qualitative and quantitative research tools. This approach is also fully documented in this synthesis, including the provision of a conceptual framework for analyzing the functioning of schools.

The authors

Gabriel Carron is Senior Programme Co-ordinator at the International Institute for Educational Planning (UNESCO) in Paris. His research and main publications have concentrated on issues of regional disparities in education, adult literacy and non-formal education, and the quality improvement of basic education services. He is currently directing an international project on teacher support and supervision.

Ta Ngoc Châu was a staff member of the International Institute for Educational Planning until 1992 and is presently working as an international consultant. He has widely published on educational costs and financing, relations between education and the world of work, regional disparities in education and the quality improvement of basic education services.

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